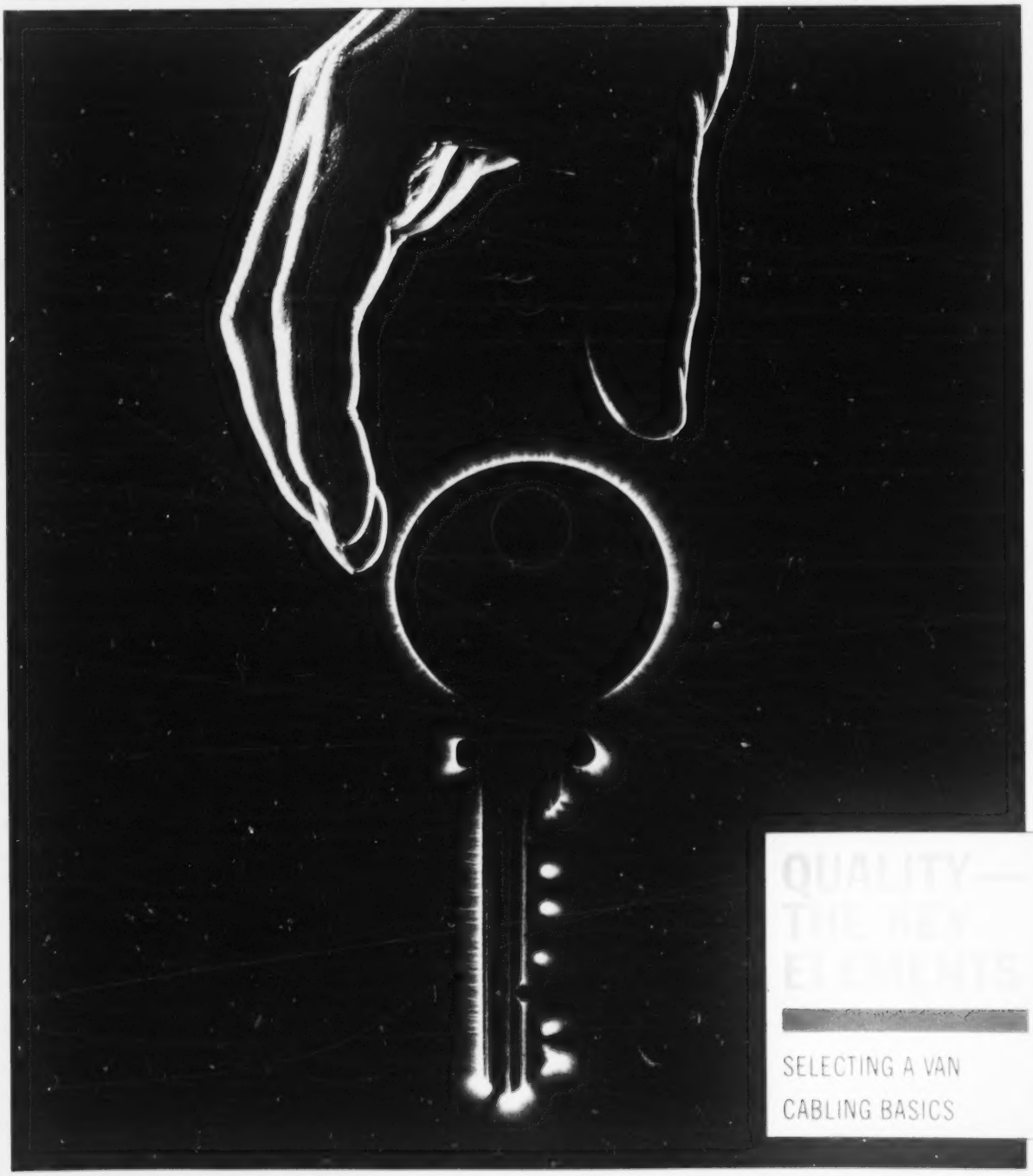
WHOLESALING



QUALITY—
THE KEY
ELEMENTS

SELECTING A VAN

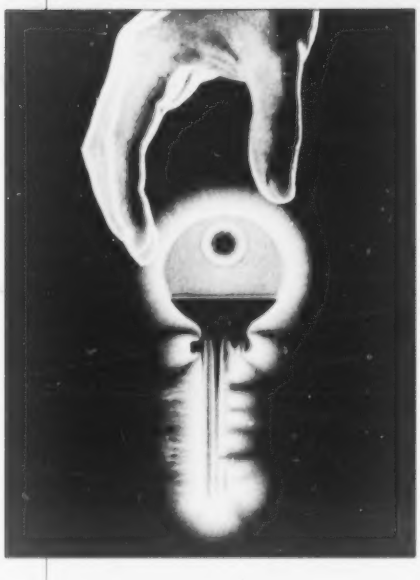
CABLING BASICS

VOLUME 72
NUMBER 11

ELECTRICAL WHOLESALING

NOVEMBER
1991

FEATURES



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A compendium of data that tells you electrical wholesalers' sales, market mix, product mix and customer mix, as well as employment in major end-user markets by region, state and local area.

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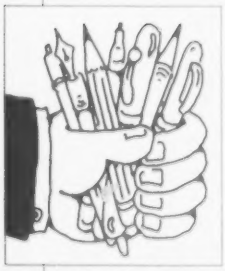

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THE PUBLISHER'S NOTE

Twelve years ago, our chief editor Andrea Herbert had a vision: To give ELECTRICAL WHOLESALING's readers a way to measure the market for electrical product sales in their territories. And it had to be a way that was easy to understand and simple to use.

Out of that vision came our Market Planning Guide—or MPG, as many readers familiarly call it. First published in 1979 and now an industry standard, our annual November MPG issue contains sales figures for hundreds of markets, right down to the local area. And it gives our readers a series of multipliers by which to judge for themselves the size of their territories. Thousands of dollars of research and over a hundred hours of time go into the preparation of the data for this issue.

At the time, back 12 years ago, it was a radical idea. Market planning was seldom practiced. Market reasearch was rare in this market. Most electrical wholesalers flew by the seat of their pants. Today, distributors, manufacturers and manufacturers' reps alike use our data to analyze their markets and set their business plans.

We are proud to bring this data to you as part of the service we offer the electrical industry.

Rich Hathaway

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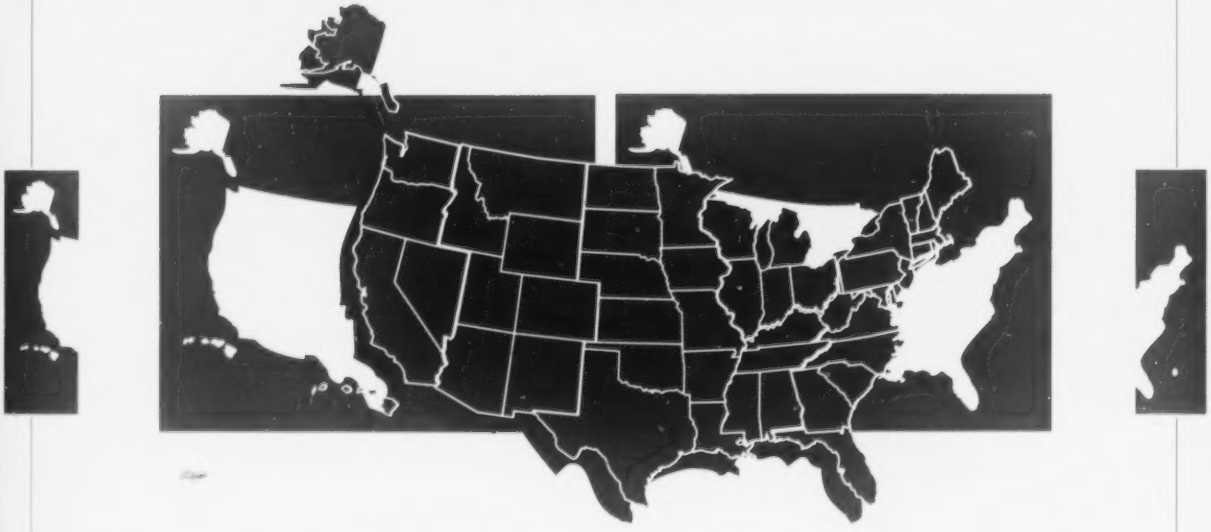
REGIONAL FACTBOOK



■ This Regional Factbook contains many of the figures a researcher will need to figure out the size of the market for electrical goods in his area.

Here's what can be found by region in the following tables:

- How the typical full-line electrical wholesaler divides up sales—by product line, by customer type and by end-use market.
- ELECTRICAL WHOLESALING's estimates on 1991 employment in four end-use markets important to electrical wholesalers.
- The latest data on electrical wholesalers' sales, including forecasts for this year and 1992.

The Regional Factbook contains data for the nation, nine regions, 50 states and 283 local market areas. A national summary appears at the end of this introductory section. Data grouped by region follow.

All sales data in this Regional Factbook have the 1987 Census of Wholesale Trade as their benchmark. That means the sales data series in effect "starts fresh" with a new set of sales numbers for 1987. We then carry the figures forward from there based on the forecasts electrical distributors provide to us in interim years. The next Census of Wholesale Trade will be taken in 1992; and if the government holds true to form in this massive data collection and tabulation effort, the results should be available to use in late 1994. Until that time, the 1987 figures will serve as our "starting point." These 1987 Census figures for electrical wholesalers' sales were recorded in our tables in last year's Regional Factbook; readers may refer to our November 1990 issue if they need those numbers. Estimates for sales in 1988, 1989 and 1990 shown in this issue, along with forecasts for 1991 and 1992 are based on ELECTRICAL WHOLESALING surveys of electrical distributors.

Users of the data in this Regional Factbook should note that the metropolitan areas listed almost always include the central city plus surrounding counties. For example the definition for Newark, N.J., says it covers Essex, Morris, Sussex and Union counties in New Jersey, which reaches from the central port city across the state to the farm country at New Jersey's border with Pennsylvania. That's a much broader area than most people would assume at first glance. These metropolitan areas are grouped according to the government's MSA (Metropolitan Statistical Area) system.

The sales data benchmarks are the figures for the MSAs as they were defined in 1987, when the Census of Wholesale Trade was taken. The employment data in the Regional Factbok are based on the 1991 *Employment and Earnings*, put out by the U.S. Department of Labor; and it uses the most current definitions for MSAs.

In most cases, the definitions for the territory covered by the sales figures and the employment data are the same. For some, however, a county may have been added or deleted. These changing definitions should present no real difficulty—they simply represent the natural evolution of the marketplace. □

The Nation

PRODUCT MIX

■ Distributors sell a full market basket

	NATION	NEW ENGLAND	MIDDLE ATLANTIC	EAST NORTH CENTRAL	WEST NORTH CENTRAL	SOUTH ATLANTIC	EAST SOUTH CENTRAL	WEST SOUTH CENTRAL	MOUNTAIN	PACIFIC
Residential lighting fixtures	4.0%	5.2%	3.9%	5.4%	1.7%	4.5%	1.6%	1.8%	1.6%	2.8%
C/I lighting fixtures	7.6%	9.0%	10.7%	7.6%	6.1%	5.4%	4.0%	8.6%	3.8%	6.5%
Outdoor lighting fixtures	2.8%	5.6%	3.3%	1.8%	2.6%	2.4%	1.3%	3.0%	1.8%	1.7%
Lamps	6.4%	7.4%	8.5%	6.0%	5.6%	5.0%	7.6%	6.7%	5.1%	5.2%
Ballasts	1.7%	1.4%	1.4%	1.1%	1.9%	1.9%	1.6%	2.0%	1.9%	2.9%
Building wire	8.9%	10.8%	7.3%	7.0%	7.4%	9.2%	5.5%	11.5%	7.6%	11.4%
Portable cords and cables, cord sets	1.6%	1.6%	1.4%	1.4%	1.5%	1.8%	3.4%	1.8%	2.3%	2.5%
Power cable (includes service entrance)	2.9%	4.1%	2.4%	2.7%	1.1%	4.2%	5.3%	3.3%	2.5%	1.5%
Specialty wire (telephone, fiber optic, electronic, undercarpet)	1.0%	2.9%	1.0%	1.1%	.5%	.8%	.4%	.6%	.7%	.3%
Lugs, connectors and terminations	1.4%	1.3%	1.1%	1.3%	.8%	1.4%	1.1%	2.0%	1.8%	4.1%
Fasteners and hangers	.7%	.6%	.8%	.7%	.5%	.6%	.5%	1.2%	1.4%	.4%
Pole line hardware/ utility supplies	3.4%	.2%	.3%	4.2%	6.4%	4.1%	1.8%	5.2%	7.9%	.1%
Electrical tape, insulating materials	.9%	.9%	.8%	1.1%	1.0%	1.0%	1.5%	1.0%	.9%	.9%
Metal conduit (rigid and flexible) and EMT	3.8%	3.1%	3.6%	5.2%	3.1%	3.0%	4.0%	3.6%	4.2%	4.2%
Nonmetallic conduit	1.6%	2.3%	1.8%	.8%	1.6%	1.4%	.6%	1.8%	1.8%	2.4%
Conduit fittings and bodies	3.0%	2.7%	2.7%	3.2%	1.9%	3.2%	4.1%	3.6%	3.2%	3.2%
Elbows, couplings and nipples	.9%	1.2%	.8%	1.0%	1.0%	1.0%	.6%	.9%	1.4%	1.0%
Boxes	1.9%	1.5%	2.3%	2.3%	1.9%	1.9%	1.4%	1.4%	2.1%	1.4%
Enclosures	2.3%	2.9%	2.2%	1.7%	2.7%	1.8%	1.7%	2.2%	3.8%	4.8%
Panelboards	3.7%	3.7%	2.7%	2.0%	4.2%	3.7%	3.2%	5.9%	2.8%	4.3%
Safety switches	2.1%	1.3%	1.8%	1.7%	2.7%	3.0%	1.7%	2.0%	2.2%	2.0%
Switchgear	3.5%	3.1%	3.3%	3.2%	4.5%	3.1%	6.0%	3.6%	3.7%	3.5%
Circuit breakers (including GFI) and load centers	4.3%	2.8%	5.0%	4.2%	2.5%	4.8%	5.2%	5.2%	3.3%	3.2%
Fuses	1.9%	1.1%	1.7%	1.6%	1.8%	2.4%	3.1%	2.0%	2.5%	2.1%
Transformers (except ballasts)	2.2%	1.6%	1.9%	2.0%	5.2%	1.6%	2.6%	1.9%	3.6%	1.8%

■ Product Mix-continued

	NATION	NEW ENGLAND	MIDDLE ATLANTIC	EAST NORTH CENTRAL	WEST NORTH CENTRAL	SOUTH ATLANTIC	EAST SOUTH CENTRAL	WEST SOUTH CENTRAL	MOUNTAIN	PACIFIC
Bus duct	.6%	.6%	.6%	.5%	.7%	.8%	.5%	.9%	.2%	.1%
Motor controls, starters and relays	7.3%	4.8%	9.4%	7.5%	6.9%	8.7%	10.5%	5.8%	5.5%	7.8%
Programmable logic controllers	3.9%	4.8%	3.5%	6.2%	4.2%	2.2%	6.1%	3.4%	1.3%	3.8%
Industrial computers	.3%	.1%	.3%	.2%	.3%	.2%	.6%	.2%	1.3%	.7%
Motors and drives	1.6%	.7%	1.2%	1.8%	5.0%	1.8%	2.6%	.9%	.8%	.4%
Wiring devices (includes GFI types)	3.5%	2.8%	3.6%	3.4%	2.6%	4.3%	3.0%	1.9%	5.6%	5.3%
UPS, computer power conditioning and protection equipment	.4%	.4%	.5%	.2%	.2%	.4%	.5%	.7%	1.1%	.7%
Instruments and test equipment	.5%	.3%	.3%	.5%	.5%	.5%	2.0%	.7%	1.7%	.2%
Tools (power and manual)	1.0%	1.0%	1.1%	1.0%	.5%	1.3%	.5%	.6%	1.6%	.6%
Electric heating equipment	.8%	1.3%	1.5%	.7%	.6%	.7%	.5%	.1%	.8%	.5%
Air conditioners	.2%	.2%	†	.2%	.7%	.1%	†	†	.2%	.4%
Fans and ventilating equipment	1.1%	1.0%	1.0%	1.0%	.8%	1.7%	.4%	.6%	1.6%	.2%
Sound, signal/alarm and communications equipment	.5%	.7%	.6%	.3%	.8%	.5%	.2%	.7%	1.0%	.3%
Electric generator sets	.2%	.2%	1.2%	†	†	.1%	†	†	†	†
Electrical appliances, housewares, table lamps	.4%	1.3%	†	.1%	†	.6%	.1%	.4%	†	.2%
Electronic products	1.0%	.3%	.5%	2.0%	4.3%	.5%	1.8%	.1%	.2%	.4%
Other	2.3%	.9%	2.0%	4.2%	1.6%	2.3%	1.1%	.2%	3.1%	4.3%

Data for all types of electrical wholesalers

† Less than .1%

CUSTOMER MIX

■ Distributors sell to a broad cross-section of businesses

	NATION	NEW ENGLAND	MIDDLE ATLANTIC	EAST NORTH CENTRAL	WEST NORTH CENTRAL	SOUTH ATLANTIC	EAST SOUTH CENTRAL	WEST SOUTH CENTRAL	MOUNTAIN	PACIFIC
Electrical contractors	40.8%	39.6%	41.4%	35.5%	45.1%	42.9%	43.3%	42.3%	47.9%	35.2%
Non-electrical contractors	6.5%	5.8%	6.8%	5.5%	5.7%	7.4%	8.1%	5.2%	5.0%	5.7%
Commercial/institutional accounts	7.9%	9.7%	8.0%	7.6%	7.7%	7.9%	7.6%	5.8%	7.4%	8.0%
Industrials (for maintenance and repair)	18.4%	18.6%	17.7%	23.1%	15.4%	18.3%	18.0%	16.7%	19.0%	15.2%
Industrials (for OEM)	6.9%	6.8%	7.7%	11.8%	4.8%	3.6%	3.8%	6.2%	4.3%	8.4%
Utilities (private, REA, PUD, municipals)	3.9%	3.4%	2.3%	2.9%	8.4%	4.4%	3.3%	6.4%	4.2%	4.2%
General public (retail)	4.4%	5.8%	5.3%	4.0%	3.0%	5.0%	4.7%	3.4%	2.5%	4.3%
Retailers (for resale)	4.5%	3.2%	3.5%	4.0%	5.0%	4.0%	5.5%	5.2%	3.0%	7.3%
Government (federal, state, local)	3.5%	2.9%	3.2%	2.9%	3.8%	3.4%	3.4%	3.2%	4.8%	4.4%
Other wholesalers	1.8%	1.4%	2.0%	2.0%	.9%	1.4%	1.5%	2.1%	1.5%	3.5%
Export	.8%	.3%	1.8%	.3%	.1%	1.1%	.2%	1.0%	.2%	2.7%
Others	.6%	2.5%	.3%	.4%	.1%	.6%	.6%	2.5%	.2%	1.1%

Data for all types of electrical wholesalers

MARKET MIX

■ The products distributors sell have a variety of end uses

	NATION	NEW ENGLAND	MIDDLE ATLANTIC	EAST NORTH CENTRAL	WEST NORTH CENTRAL	SOUTH ATLANTIC	EAST SOUTH CENTRAL	WEST SOUTH CENTRAL	MOUNTAIN	PACIFIC
Residential new construction	16.7%	16.1%	11.4%	5.5%	20.4%	19.2%	21.5%	9.8%	23.6%	19.1%
Industrial new construction	13.6%	19.0%	10.5%	11.5%	11.5%	16.1%	17.1%	11.5%	8.5%	9.0%
Commercial/ office new construction	14.5%	18.0%	16.2%	9.6%	15.6%	17.0%	19.2%	13.0%	17.5%	15.1%
Industrial maintenance and repair supplies	20.3%	18.9%	20.4%	28.8%	11.6%	21.4%	16.0%	21.4%	15.5%	13.6%
Commercial/ institutional customers	5.6%	8.4%	7.3%	5.7%	6.6%	5.0%	6.2%	5.5%	6.9%	3.1%
Industrial or commercial renovation/retrofit	7.2%	8.0%	9.1%	9.8%	5.3%	6.4%	6.2%	8.4%	6.8%	8.8%
OEMs (for use in the products they make)	7.1%	4.0%	8.5%	17.3%	5.1%	3.9%	1.0%	7.0%	2.0%	10.9%
Utilities	5.0%	.8%	2.5%	1.9%	14.4%	2.2%	5.2%	14.4%	5.0%	1.6%
Government	2.3%	.8%	2.5%	3.1%	2.4%	3.0%	2.3%	1.3%	3.8%	2.3%
Retailers (for resale)	2.2%	1.0%	1.7%	3.3%	1.4%	.5%	1.8%	1.4%	3.4%	12.4%
Export	1.0%	+	4.1%	.6%	.3%	.5%	+	2.9%	.6%	.5%
Retail trade/lighting showroom/ D-I-Y supplies	3.2%	4.4%	4.8%	1.5%	3.0%	3.4%	1.7%	1.4%	6.4%	2.6%
Other wholesalers	1.0%	.5%	.9%	.8%	1.0%	.9%	1.8%	1.6%	1.3%	.6%
Other	.5%	1%	.1%	.4%	1.4%	.7%	+	.2%	.1%	.4%

Data for full-line electrical wholesalers only

+ Less than .1%

NOTES

C—sales figures for Boulder-Longmont, Colo., combined with those for Denver
NA—no 1987 Census of Wholesale Trade data available on S.I.C. 5063 from which to make estimates
NR—not reported
EC—electrical contractor employees
M—manufacturing employees
F/S/RT—employment in finance, insurance, real estate, services and retail trade
G—government employees
Sales given in millions of dollars

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VERMONT

ELECTRICAL WHOLESALERS' SALES EMPLOYMENT 1991

Nation

	EW estimates			EW forecasts		in thousands			
	1988	1989	1990	1991	1992	EC	M	F/S/RT	G
NEW ENGLAND	$2,181.5	$2,201.2	$2,053.6	$1,968.3	$2,029.6	18,520	1,146.7	3,319.8	883.8
MIDDLE ATLANTIC	6,118.2	6,494.5	6,286.6	6,017.2	6,365.4	73,960	2,611.4	8,784.9	2,759.7
EAST NORTH CENTRAL	6,202.0	6,878.2	6,767.9	6,734.8	7,175.1	76,830	4,115.4	9,108.2	2,898.1
WEST NORTH CENTRAL	1,989.4	2,148.2	2,317.7	2,338.6	2,489.7	30,800	1,375.1	3,956.0	1,468.7
SOUTH ATLANTIC	6,327.2	6,740.2	6,742.6	6,247.3	6,678.6	100,030	3,015.4	9,812.4	3,707.7
EAST SOUTH CENTRAL	1,837.2	1,942.9	2,045.8	1,969.7	2,073.0	24,140	1,414.4	2,655.9	1,170.4
WEST SOUTH CENTRAL	3,481.2	3,850.0	4,176.3	4,355.6	4,581.1	49,100	1,558.9	5,062.1	2,095.1
MOUNTAIN	1,607.0	1,677.5	1,755.4	1,821.1	1,910.1	25,925	642.5	3,065.3	1,178.9
PACIFIC	6,158.1	7,027.0	7,433.4	6,955.4	7,323.5	77,455	2,647.0	8,702.5	2,972.0
NATION	**35,901.9**	**38,959.9**	**39,579.2**	**38,408.0**	**40,626.1**	**476,760**	**18,526.8**	**54,467.3**	**19,134.4**

New England

	EW estimates			EW forecasts		in thousands			
	1988	1989	1990	1991	1992	EC	M	F/S/RT	G
NEW ENGLAND	**$2,181.5**	**$2,201.2**	**$2,053.6**	**$1,968.3**	**$2,029.6**	**18,520**	**1,146.7**	**3,319.8**	**883.8**
CONNECTICUT	657.9	647.9	624.0	617.1	633.4	4,830	326.6	851.3	214.1
BRIDGEPORT	152.1	149.8	144.3	142.7	146.4	570	46.1	95.5	19.8
HARTFORD	205.0	220.4	212.3	209.9	215.5	1,215	80.7	259.1	64.7
NEW BRITAIN	NA	NA	NA	NA	NA	350	17.5	27.4	7.1
NEW HAVEN-WEST HAVEN	109.1	107.5	103.5	102.4	105.1	740	42.0	137.8	32.1
STAMFORD	44.1	43.4	41.8	41.3	42.4	350	18.6	72.4	10.4
WATERBURY	NA	NA	NA	NA	NA	265	18.2	39.8	13.0
MAINE	**123.8**	**127.7**	**125.1**	**115.2**	**118.9**	**1,510**	**94.9**	**251.7**	**95.0**
LEWISTON-AUBURN	NA	NA	NA	NA	NA	110	8.3	20.6	4.3
PORTLAND	50.6	52.3	51.2	47.1	48.7	340	15.7	70.3	15.9
MASSACHUSETTS	**1,078.9**	**1,106.7**	**1,003.6**	**954.0**	**986.0**	**8,845**	**489.9**	**1,614.3**	**389.1**
BOSTON	682.3	716.5	649.7	617.6	638.3	4,700	226.6	979.5	195.2
BROCKTON	NA	NA	NA	NA	NA	240	8.2	36.0	11.6
FALL RIVER	NA	NA	NA	NA	NA	185	13.2	24.3	7.0
FITCHBURG-LEOMINSTER	NA	NA	NA	NA	NA	150	10.4	16.7	4.5
LAWRENCE-HAVERHILL	61.8	63.4	57.5	54.7	56.5	520	42.0	67.1	20.0
LOWELL	NA	NA	NA	NA	NA	370	29.1	39.5	13.4
NEW BEDFORD	NA	NA	NA	NA	NA	240	15.3	29.3	9.4
PITTSFIELD	NA	NA	NA	NA	NA	130	8.9	21.9	5.0
SALEM-GLOUCESTER	33.6	34.4	31.2	29.7	30.7	NR	NR	NR	NR
SPRINGFIELD	87.5	89.7	76.2	72.4	76.2	760	43.7	120.4	37.8
WORCESTER	97.9	100.4	91.1	86.6	89.5	575	37.9	95.4	23.9
NEW HAMPSHIRE	**132.4**	**131.7**	**124.1**	**117.3**	**121.2**	**1,110**	**99.4**	**250.1**	**75.6**
MANCHESTER	NA	NA	NA	NA	NA	140	10.8	47.4	9.0
NASHUA	NA	NA	NA	NA	NA	120	28.6	38.8	7.8

Sales given in millons of dollars.

NEW JERSEY
NEW YORK
PENNSYLVANIA

ILLINOIS
INDIANA
MICHIGAN
OHIO
WISCONSIN

■ New England-continued

	EW estimates			EW forecasts		in thousands			
	1988	1989	1990	1991	1992	EC	M	F/S/RT	G
PORTSMOUTH-DOVER-ROCHESTER	NA	NA	NA	NA	NA	220	19.9	51.3	26.2
RHODE ISLAND	**110.4**	**107.6**	**101.9**	**94.2**	**97.2**	**1,390**	**91.9**	**228.6**	**64.9**
PAWTUCKET-WOONSOCKET-ATTLEBORO	NA	NA	NA	NA	NA	325	43.5	51.7	11.7
PROVIDENCE	76.9	74.9	71.0	65.6	67.7	1,075	59.3	167.5	47.3
VERMONT	**78.0**	**79.6**	**74.9**	**70.6**	**72.8**	**840**	**44.0**	**123.8**	**45.1**
BARRE-MONTPELIER	NA	NA	NA	NA	NA	135	4.4	16.4	8.1
BURLINGTON	NA	NA	NA	NA	NA	255	15.1	40.5	12.5

■ Middle Atlantic

	EW estimates			EW forecasts		in thousands			
	1988	1989	1990	1991	1992	EC	M	F/S/RT	G
MIDDLE ATLANTIC	**$6,118.2**	**$6,494.5**	**$6,286.6**	**$6,017.2**	**$6,365.4**	**73,960**	**2,611.4**	**8,784.9**	**2,759.7**
NEW JERSEY	**1,661.9**	**1,682.8**	**1,590.2**	**1,473.4**	**1,561.3**	**14,680**	**559.2**	**1,819.5**	**575.0**
ATLANTIC CITY	NA	NA	NA	NA	NA	400	6.9	111.5	27.5
BERGEN-PASSAIC	392.4	397.3	375.4	347.9	368.6	2,070	126.9	325.0	70.3
CAMDEN	NA	NA	NA	NA	NA	1,985	63.7	224.1	78.5
JERSEY CITY	82.4	83.5	78.9	73.1	77.5	845	35.7	103.5	41.1
MIDDLESEX-SOMERSET-HUNTERDON	253.9	253.7	239.8	222.2	235.4	2,480	103.5	251.9	78.7
MONMOUTH-OCEAN	77.0	77.9	73.6	68.2	72.3	1,210	23.6	182.8	66.5
NEWARK	472.2	486.9	471.6	451.2	487.4	4,995	148.5	464.4	136.3
TRENTON	71.5	72.4	68.4	63.3	67.1	365	25.2	93.0	56.3
VINELAND-MILLVILLE-BRIDGETON	NA	NA	NA	NA	NA	770	14.2	23.4	12.9
NEW YORK	**2,830.7**	**3,049.6**	**2,990.0**	**2,967.3**	**3,123.9**	**39,050**	**1,081.8**	**4,306.4**	**1,473.7**
ALBANY-SCHENECTADY-TROY	111.9	128.0	132.0	139.7	149.4	1,365	46.5	208.1	114.3
BINGHAMTON	NA	NA	NA	NA	NA	560	32.5	46.1	21.5
BUFFALO	134.3	144.7	141.9	140.8	148.2	1,615	72.2	245.7	76.3
ELMIRA	NA	NA	NA	NA	NA	150	8.1	18.7	7.1
GLENS FALLS	NA	NA	NA	NA	NA	105	9.7	20.1	9.5
NASSAU-SUFFOLK	571.4	559.5	548.6	544.5	573.2	4,750	138.3	594.8	187.3
NEW YORK	1,482.7	1,593.5	1,354.5	1,343.6	1,364.7	20,185	322.5	2,059.3	605.7
NIAGARA FALLS	NA	NA	NA	NA	NA	215	21.7	35.7	13.2
ORANGE COUNTY	NA	NA	NA	NA	NA	440	13.0	49.0	24.4
POUGHKEEPSIE	NA	NA	NA	NA	NA	500	29.6	50.4	24.8
ROCHESTER	147.9	159.4	156.3	155.1	163.3	1,825	131.8	223.6	69.9
ROCKLAND COUNTY	65.9	71.0	69.6	69.0	72.7	470	14.6	48.3	21.2
SYRACUSE	141.7	158.0	154.9	153.7	161.9	1,290	49.4	162.2	53.6
UTICA-ROME	NA	NA	NA	NA	NA	190	21.5	56.4	30.7
WESTCHESTER COUNTY	387.0	416.9	408.8	405.7	427.1	2,330	53.6	220.3	58.0
PENNSYLVANIA	**1,625.6**	**1,762.2**	**1,706.4**	**1,576.5**	**1,680.2**	**20,230**	**970.4**	**2,659.0**	**711.0**

■ Middle Atlantic-continued

	EW estimates			EW forecasts		in thousands			
	1988	1989	1990	1991	1992	EC	M	F/$/RT	G
ALLENTOWN-BETHLEHEM	94.9	99.7	96.6	89.2	95.1	1,290	73.6	140.8	32.8
ALTOONA	NA	NA	NA	NA	NA	300	10.7	25.6	7.4
BEAVER COUNTY	NA	NA	NA	NA	NA	45	9.0	23.5	8.0
ERIE	NA	NA	NA	NA	NA	320	35.7	55.6	13.7
HARRISBURG-LEBANON-CARLISLE	102.4	109.2	110.3	106.4	110.5	855	46.9	147.0	68.6
JOHNSTOWN	NA	NA	NA	NA	NA	210	14.6	39.6	13.0
LANCASTER	NA	NA	NA	NA	NA	1,855	55.3	87.9	17.4
PHILADELPHIA	1,089.2	1,138.2	1,095.3	968.8	1,049.6	8,995	330.6	1,225.0	305.8
PITTSBURGH	338.1	368.0	356.4	329.2	350.9	4,620	115.3	538.9	107.2
READING	NA	NA	NA	NA	NA	545	43.6	68.1	18.8
SCRANTON-WILKES BARRE	NA	NA	NA	NA	NA	1,390	66.5	148.5	42.1
SHARON	NA	NA	NA	NA	NA	NR	11.4	21.0	5.5
STATE COLLEGE	NA	NA	NA	NA	NA	125	8.4	22.1	23.8
WILLIAMSPORT	NA	NA	NA	NA	NA	200	15.3	21.2	6.9
YORK	NA	NA	NA	NA	NA	590	55.5	76.5	20.0

■ East North Central

	EW estimates			EW forecasts		in thousands			
	1988	1989	1990	1991	1992	EC	M	F/$/RT	G
EAST NORTH CENTRAL	**$6,202.0**	**$6,878.2**	**$6,767.9**	**$6,734.8**	**$7,175.1**	**76,830**	**4,115.4**	**9,108.2**	**2,898.1**
ILLINOIS	**1,929.5**	**2,165.1**	**2,183.2**	**2,196.3**	**2,337.5**	**24,320**	**974.8**	**2,642.2**	**770.6**
AURORA-ELGIN	58.3	65.4	66.0	66.4	70.6	750	38.2	71.8	16.9
BLOOMINGTON-NORMAL	NA	NA	NA	NA	NA	200	7.5	36.7	13.5
CHAMPAIGN-URBANA -RANTOUL	NA	NA	NA	NA	NA	190	9.9	35.6	36.8
CHICAGO	1,434.5	1,617.6	1,670.1	1,713.6	1,850.3	16,920	555.0	1,701.1	382.1
DAVENPORT-ROCK ISLAND-MOLINE	52.5	58.9	59.4	59.7	63.6	610	31.1	78.6	26.5
DECATUR	NA	NA	NA	NA	NA	380	14.3	22.8	6.1
JOLIET	NA	NA	NA	NA	NA	985	19.3	45.7	18.0
KANKAKEE	NA	NA	NA	NA	NA	140	5.8	17.7	6.6
LAKE COUNTY	NA	NA	NA	NA	NA	1,210	48.5	109.0	32.0
PEORIA	58.3	65.4	66.0	66.4	70.6	560	33.0	73.7	17.3
ROCKFORD	56.9	63.9	64.4	64.8	69.0	470	47.3	58.0	12.9
SPRINGFIELD	NA	NA	NA	NA	NA	445	4.2	51.5	35.0
INDIANA	**894.2**	**1,077.8**	**1,177.0**	**1,235.0**	**1,343.8**	**10,865**	**622.5**	**1,132.6**	**382.9**
ANDERSON	NA	NA	NA	NA	NA	115	16.1	22.2	7.2
BLOOMINGTON	NA	NA	NA	NA	NA	220	9.1	22.9	17.7
ELKHART-GOSHEN	NA	NA	NA	NA	NA	215	50.7	34.7	6.8
EVANSVILLE	65.3	78.7	86.0	90.2	98.2	725	31.1	69.8	13.9
FT. WAYNE	67.9	81.9	89.4	93.8	102.1	760	50.2	96.3	20.0
GARY-HAMMOND	51.7	62.3	68.0	71.4	77.7	2,060	55.0	113.2	34.0
INDIANAPOLIS	375.3	452.3	493.9	518.3	563.9	3,475	109.7	340.8	102.1
KOKOMO	NA	NA	NA	NA	NA	60	17.4	16.8	6.8
LAFAYETTE-WEST LAFAYETTE	NA	NA	NA	NA	NA	195	13.7	27.2	19.4
MUNCIE	NA	NA	NA	NA	NA	310	10.7	24.0	13.0
SOUTH BEND-MISHAWAKA	63.0	75.9	82.9	86.9	94.6	845	20.7	68.3	12.4
TERRE HAUTE	NA	NA	NA	NA	NA	175	11.0	27.1	11.0
MICHIGAN	**1,213.2**	**1,311.4**	**1,189.7**	**1,110.4**	**1,184.8**	**15,390**	**894.6**	**1,862.6**	**640.4**
ANN ARBOR	NA	NA	NA	NA	NA	360	36.1	70.3	56.7
BATTLE CREEK	NA	NA	NA	NA	NA	145	15.4	26.1	11.7
BENTON HARBOR	NA	NA	NA	NA	NA	225	20.6	29.4	9.2
DETROIT	638.1	710.3	623.3	592.8	630.1	7,575	424.6	984.3	238.9
FLINT	NA	NA	NA	NA	NA	480	49.8	80.4	24.1
GRAND RAPIDS	136.1	147.2	133.5	124.6	133.0	1,590	100.1	169.2	34.8

IOWA
KANSAS
MINNESOTA
MISSOURI
NEBRASKA
NORTH DAKOTA
SOUTH DAKOTA

DELAWARE
DISTRICT OF COLUMBIA
FLORIDA
GEORGIA
MARYLAND
NORTH CAROLINA
SOUTH CAROLINA
VIRGINIA
WEST VIRGINIA

East North Central-continued

	EW estimates			EW forecasts		in thousands			
	1988	1989	1990	1991	1992	EC	M	F/S/RT	G
JACKSON	NA	NA	NA	NA	NA	200	12.1	23.3	10.2
KALAMAZOO	NA	NA	NA	NA	NA	535	28.3	55.2	16.7
LANSING-EAST LANSING	55.2	59.7	54.1	50.5	53.9	710	28.0	95.5	72.1
MUSKEGON	NA	NA	NA	NA	NA	305	16.0	25.8	9.8
SAGINAW-BAY CITY-MIDLAND	63.1	68.2	61.9	57.7	61.6	685	42.9	78.1	21.4
OHIO	**1,572.8**	**1,675.9**	**1,551.9**	**1,513.0**	**1,696.1**	**18,630**	**1,078.1**	**2,386.1**	**749.4**
AKRON	79.6	84.9	78.6	76.6	80.3	910	66.3	134.8	47.8
CANTON	50.2	53.5	49.6	48.3	50.6	710	43.6	79.0	19.7
CINCINNATI	270.2	287.9	266.6	259.9	272.5	2,810	145.7	383.0	98.6
CLEVELAND	357.4	380.8	352.6	343.8	360.4	3,780	201.7	481.4	120.6
COLUMBUS	408.2	435.0	402.8	392.7	411.7	2,900	104.1	390.9	132.9
DAYTON-SPRINGFIELD	151.2	161.1	149.2	145.5	152.5	1,365	97.4	219.8	77.9
TOLEDO	80.5	85.8	79.4	77.4	81.2	1,575	53.3	146.6	45.7
YOUNGSTOWN-WARREN	36.8	39.2	36.3	35.4	37.1	560	48.0	100.9	25.5
WISCONSIN	**592.3**	**648.0**	**666.1**	**680.0**	**722.9**	**7,615**	**545.4**	**1,084.7**	**354.8**
APPLETON-OSHKOSH-NEENAH	NA	NA	NA	NA	NA	1,050	52.7	69.7	18.6
EAU CLAIRE	NA	NA	NA	NA	NA	225	10.9	27.4	12.1
GREEN BAY	NA	NA	NA	NA	NA	490	22.6	52.8	12.4
JANESVILLE-BELOIT	NA	NA	NA	NA	NA	210	16.4	27.2	7.4
KENOSHA	NA	NA	NA	NA	NA	180	9.8	20.5	6.4
LA CROSSE	NA	NA	NA	NA	NA	75	10.5	28.0	7.8
MADISON	NA	NA	NA	NA	NA	645	26.2	108.5	62.1
MILWAUKEE	258.9	281.8	280.9	298.7	321.6	2,705	170.3	391.3	89.2
RACINE	NA	NA	NA	NA	NA	240	25.6	34.5	8.8
SHEBOYGAN	NA	NA	NA	NA	NA	150	22.3	19.4	5.6
WAUSAU	NA	NA	NA	NA	NA	225	15.0	23.6	6.6

West North Central

	EW estimates			EW forecasts		in thousands			
	1988	1989	1990	1991	1992	EC	M	F/S/RT	G
WEST NORTH CENTRAL	**$1,989.4**	**$2,148.2**	**$2,317.7**	**$2,338.6**	**$2,489.7**	**30,795**	**1,375.1**	**3,956.0**	**1,468.7**
IOWA	**250.3**	**273.6**	**288.9**	**290.0**	**304.6**	**3,895**	**229.6**	**596.5**	**229.2**
CEDAR RAPIDS	NA	NA	NA	NA	NA	480	21.2	44.7	12.1
DES MOINES	65.8	71.9	75.9	76.2	80.1	650	26.0	135.5	33.3
DUBUQUE	NA	NA	NA	NA	NA	130	11.1	23.3	4.0
IOWA CITY	NA	NA	NA	NA	NA	145	4.6	19.6	26.4
SIOUX CITY	NA	NA	NA	NA	NA	185	10.7	27.3	6.5
WATERLOO-CEDAR FALLS	NA	NA	NA	NA	NA	140	16.7	32.8	13.7
KANSAS	**203.7**	**219.8**	**236.5**	**238.3**	**253.1**	**3,200**	**184.1**	**502.2**	**220.6**
LAWRENCE	NA	NA	NA	NA	NA	90	4.6	16.0	12.7
TOPEKA	NA	NA	NA	NA	NA	225	9.5	43.1	22.5
WICHITA	51.6	55.7	60.0	60.4	64.2	1,050	63.9	114.2	30.1

West North Central-continued

	EW estimates			EW forecasts		in thousands			
	1988	1989	1990	1991	1992	EC	M	F/S/RT	G
MINNESOTA	**513.6**	**558.8**	**601.3**	**606.0**	**643.6**	**7,730**	**389.4**	**1,076.3**	**352.7**
DULUTH	NA	NA	NA	NA	NA	230	9.0	46.0	22.9
MINNEAPOLIS-ST. PAUL	357.5	400.7	431.2	434.5	461.5	4,970	254.5	713.1	194.3
ROCHESTER	NA	NA	NA	NA	NA	215	11.8	40.7	7.0
ST. CLOUD	NA	NA	NA	NA	NA	215	14.7	38.4	14.0
MISSOURI	**636.2**	**683.7**	**750.7**	**761.3**	**820.3**	**9,405**	**418.8**	**1,119.6**	**380.0**
KANSAS CITY	213.6	229.5	252.0	255.6	275.4	2,915	107.3	393.6	125.2
ST. LOUIS	340.1	380.9	418.3	424.2	457.0	5,315	213.9	613.5	149.1
SPRINGFIELD	NA	NA	NA	NA	NA	420	21.2	63.2	16.0
NEBRASKA	**182.1**	**190.0**	**201.5**	**202.0**	**212.5**	**4,830**	**100.9**	**378.7**	**153.9**
LINCOLN	NA	NA	NA	NA	NA	2,085	14.9	57.0	35.2
OMAHA	91.7	95.7	101.5	101.8	107.0	1,220	38.8	195.2	50.4
NORTH DAKOTA	**133.2**	**146.5**	**157.6**	**158.8**	**168.7**	**970**	**17.5**	**133.8**	**67.2**
BISMARCK	NA	NA	NA	NA	NA	180	2.4	21.7	9.2
FARGO-MOORHEAD	NA	NA	NA	NA	NA	475	5.4	44.1	15.5
GRAND FORKS	NA	NA	NA	NA	NA	70	1.7	15.2	10.0
SOUTH DAKOTA	**70.3**	**75.8**	**81.0**	**82.0**	**86.8**	**770**	**34.8**	**148.9**	**65.1**
RAPID CITY	NA	NA	NA	NA	NA	110	3.9	20.4	7.5
SIOUX CITY	NA	NA	NA	NA	NA	265	9.5	44.9	8.1

South Atlantic

	EW estimates			EW forecasts		in thousands			
	1988	1989	1990	1991	1992	EC	M	F/S/RT	G
SOUTH ATLANTIC	**$6,327.2**	**$6,740.2**	**$6,742.6**	**$6,247.3**	**$6,678.6**	**100,030**	**3,015.4**	**9,812.4**	**3,707.7**
DELAWARE	**140.0**	**141.5**	**135.3**	**132.6**	**140.0**	**1,825**	**71.7**	**174.6**	**47.9**
WILMINGTON	109.6	110.8	105.9	103.8	109.6	1,400	61.8	151.3	38.3
D.C.	**NA**	**NA**	**NA**	**NA**	**NA**	**470**	**15.4**	**344.8**	**276.0**
WASHINGTON MSA	944.6	1,046.5	1,041.8	924.1	986.1	10,390	84.2	1,248.2	591.8
FLORIDA	**1,722.7**	**1,839.8**	**1,716.3**	**1,596.7**	**1,694.9**	**27,565**	**499.6**	**3,152.1**	**885.5**
DAYTONA BEACH	NA	NA	NA	NA	NA	745	12.1	73.0	22.5
FT. LAUDERDALE-HOLLYWOOD-POMPANO BEACH	139.4	170.3	158.9	147.8	156.9	3,600	42.1	315.7	73.1
FT. MYERS-CAPE CORAL	47.2	50.4	47.0	43.8	46.5	970	6.1	80.8	21.1
GAINESVILLE	NA	NA	NA	NA	NA	330	5.5	47.4	38.7
JACKSONVILLE	141.6	151.2	141.1	131.3	139.3	2,890	35.4	238.8	65.3
LAKELAND-WINTER HAVEN	38.6	41.2	38.5	35.8	38.0	810	21.5	82.7	24.3
MELBOURNE-TITUSVILLE-PALM BAY	NA	NA	NA	NA	NA	850	29.6	89.3	24.0
MIAMI-HIALEAH	429.4	458.6	427.8	398.0	422.4	3,525	86.9	486.4	122.9
ORLANDO	149.6	159.8	149.1	138.7	147.2	3,400	51.8	352.0	67.9
PENSACOLA	NA	NA	NA	NA	NA	905	11.3	67.3	31.4
SARASOTA	NA	NA	NA	NA	NA	630	8.5	77.9	14.2
TALLAHASSEE	NA	NA	NA	NA	NA	480	4.1	55.0	54.3
TAMPA-ST. PETERSBURG-CLEARWATER	318.0	339.6	316.8	294.7	312.8	4,260	89.8	542.1	118.4
WEST PALM BEACH-BOCA RATON-DELRAY BEACH	119.7	127.9	119.3	111.0	117.8	1,980	31.7	224.1	48.2
GEORGIA	**1,093.8**	**1,147.9**	**1,246.3**	**1,235.0**	**1,356.8**	**13,920**	**539.7**	**1,332.8**	**544.9**
ALBANY	NA	NA	NA	NA	NA	435	8.3	19.7	13.8

ALABAMA
KENTUCKY
MISSISSIPPI
TENNESSEE

ARKANSAS
LOUISIANA
OKLAHOMA
TEXAS

■ South Atlantic-continued

	EW estimates			EW forecasts		in thousands			
	1988	1989	1990	1991	1992	EC	M	F/S/RT	G
ATHENS	NA	NA	NA	NA	NA	60	14.8	23.7	20.5
ATLANTA	736.0	767.7	833.5	825.9	907.4	8,895	167.8	745.1	231.2
AUGUSTA	NA	NA	NA	NA	NA	1,020	41.2	69.4	36.8
COLUMBUS	NA	NA	NA	NA	NA	580	20.5	40.4	21.8
MACON-WARNER ROBINS	NA	NA	NA	NA	NA	445	18.4	55.3	35.5
SAVANNAH	NA	NA	NA	NA	NA	935	16.3	52.0	16.7
MARYLAND	**665.8**	**747.6**	**763.0**	**658.7**	**702.6**	**14,865**	**198.7**	**1,179.3**	**428.4**
BALTIMORE	367.6	421.2	429.9	371.1	395.8	7,070	124.5	612.6	220.1
NORTH CAROLINA	**937.3**	**1,027.8**	**1,048.5**	**974.2**	**1,042.9**	**15,540**	**830.3**	**1,269.8**	**508.6**
ASHEVILLE	NA	NA	NA	NA	NA	910	20.0	40.6	13.1
CHARLOTTE-GASTONIA-ROCK HILL	321.2	363.4	370.8	344.5	368.8	2,720	147.7	260.4	74.1
GREENSBORO-WINSTON SALEM-HIGH POINT	206.5	217.3	221.7	206.0	220.5	1,140	143.8	209.7	56.7
RALEIGH-DURHAM	144.5	158.5	161.7	150.2	160.8	2,135	63.3	208.3	94.3
SOUTH CAROLINA	**384.2**	**415.1**	**409.4**	**389.4**	**389.2**	**10,715**	**367.1**	**658.4**	**299.8**
CHARLESTON	66.8	72.2	71.2	67.7	67.7	1,630	21.1	99.7	56.6
COLUMBIA	71.9	77.7	76.6	72.9	72.9	1,765	27.8	117.6	70.7
GREENVILLE-SPARTANBURG	131.9	144.6	142.7	135.7	135.6	5,845	96.1	139.7	43.5
VIRGINIA	**1,107.0**	**1,105.6**	**1,086.4**	**946.8**	**1,021.9**	**13,245**	**409.3**	**1,410.3**	**589.2**
BRISTOL	NA	NA	NA	NA	NA	180	10.7	13.5	6.2
CHARLOTTESVILLE	NA	NA	NA	NA	NA	235	8.5	30.1	23.0
DANVILLE	NA	NA	NA	NA	NA	130	14.1	15.3	5.7
LYNCHBURG	NA	NA	NA	NA	NA	345	23.1	33.2	10.0
NORFOLK-VIRGINIA BEACH-NEWPORT NEWS	169.1	168.8	165.9	144.6	156.1	2,780	64.0	286.1	137.9
NORTHERN VIRGINIA	NA	NA	NA	NA	NA	3,680	33.3	448.6	150.2
RICHMOND-PETERSBURG	181.9	181.7	178.5	155.6	167.9	2,980	63.6	230.9	98.6
ROANOKE	54.5	54.5	53.5	46.6	50.3	1,180	19.2	65.2	16.3
WEST VIRGINIA	**156.7**	**182.3**	**205.3**	**196.8**	**205.3**	**1,880**	**83.6**	**290.2**	**127.4**
CHARLESTON	34.7	40.4	45.5	43.6	45.5	270	10.6	59.4	19.8
HUNTINGTON-ASHLAND	NA	NA	NA	NA	NA	445	19.3	51.8	19.5
PARKERSBURG-MARIETTA	NA	NA	NA	NA	NA	55	14.1	29.1	9.8
WHEELING	NA	NA	NA	NA	NA	70	7.1	32.9	9.5

■ East South Central

	EW estimates			EW forecasts		in thousands			
	1988	1989	1990	1991	1992	EC	M	F/S/RT	G
EAST SOUTH CENTRAL	**$1,837.2**	**$1,942.9**	**$2,045.8**	**$1,969.7**	**$2,073.0**	**24,140**	**1,414.4**	**2,655.9**	**1,170.4**
ALABAMA	**522.6**	**560.9**	**616.3**	**599.0**	**643.2**	**6,690**	**379.5**	**658.2**	**335.4**
BIRMINGHAM	144.5	155.2	170.5	165.7	177.9	2,070	56.0	204.9	67.7

■ East South Central-continued

	EW estimates			EW forecasts		in thousands			
	1988	1989	1990	1991	1992	EC	M	F/S/RT	G
HUNTSVILLE	NA	NA	NA	NA	NA	570	32.9	55.9	32.4
MOBILE	76.0	81.6	89.7	87.2	93.6	790	27.7	86.7	31.9
MONTGOMERY	NA	NA	NA	NA	NA	460	17.4	61.8	35.6
TUSCALOOSA	NA	NA	NA	NA	NA	440	10.2	22.6	21.1
KENTUCKY	**369.3**	**400.9**	**431.1**	**402.9**	**416.8**	**6,025**	**282.3**	**670.5**	**271.8**
LEXINGTON-FAYETTE	59.1	64.2	69.0	64.5	66.7	1,110	32.2	93.3	44.1
LOUISVILLE	156.3	169.7	182.5	170.5	176.4	2,040	88.2	248.3	66.3
OWENSBORO	NA	NA	NA	NA	NA	475	6.5	17.1	5.8
MISSISSIPPI	**179.2**	**169.4**	**175.5**	**171.4**	**171.6**	**2,530**	**241.6**	**356.1**	**208.4**
JACKSON	62.0	58.6	60.7	59.3	59.3	865	20.9	88.6	42.5
TENNESSEE	**766.0**	**811.7**	**822.9**	**796.4**	**841.4**	**8,895**	**511.0**	**971.1**	**354.8**
CHATTANOOGA	64.9	68.7	69.7	67.4	71.2	1,250	44.5	90.8	35.0
JOHNSON CITY-KINGSPORT-BRISTOL	56.8	60.2	61.0	59.1	62.4	565	51.7	69.8	26.4
KNOXVILLE	104.1	110.3	111.8	108.2	114.3	1,000	47.4	121.7	51.6
MEMPHIS	227.3	240.8	244.2	236.3	249.6	2,275	60.7	229.8	77.7
NASHVILLE	274.7	291.1	295.1	285.6	301.7	2,720	87.1	259.6	70.3

■ West South Central

	EW estimates			EW forecasts		in thousands			
	1988	1989	1990	1991	1992	EC	M	F/S/RT	G
WEST SOUTH CENTRAL	**$3,481.2**	**$3,850.0**	**$4,176.3**	**$4,355.6**	**$4,581.1**	**49,095**	**1,558.9**	**5,062.1**	**2,095.1**
ARKANSAS	**230.1**	**265.4**	**287.9**	**289.1**	**308.8**	**3,155**	**234.8**	**400.2**	**166.3**
FAYETTEVILLE-SPRINGDALE	NA	NA	NA	NA	NA	230	14.1	20.9	12.3
FT. SMITH	NA	NA	NA	NA	NA	180	25.8	34.2	8.9
LITTLE ROCK-N. LITTLE ROCK	107.9	124.4	135.0	135.5	144.7	875	32.8	126.2	51.0
PINE BLUFF	NA	NA	NA	NA	NA	70	6.8	14.1	8.1
LOUISIANA	**479.8**	**572.7**	**640.8**	**694.4**	**705.7**	**9,080**	**183.7**	**736.7**	**337.6**
ALEXANDRIA	NA	NA	NA	NA	NA	200	3.2	21.9	13.2
BATON ROUGE	95.0	113.4	126.9	137.5	139.8	2,780	23.2	108.0	54.3
HOUMA-THIBODAUX	NA	NA	NA	NA	NA	90	5.9	24.0	11.2
LAFAYETTE	39.8	47.5	53.1	57.6	58.5	775	9.4	45.4	14.1
LAKE CHARLES	NA	NA	NA	NA	NA	425	10.8	29.2	11.3
MONROE	NA	NA	NA	NA	NA	345	7.9	28.8	12.0
NEW ORLEANS	217.3	259.4	290.2	314.5	319.6	3,060	45.6	286.9	91.2
SHREVEPORT	73.9	88.2	98.7	106.9	108.6	540	17.1	63.4	26.7
OKLAHOMA	**278.2**	**293.4**	**318.9**	**332.3**	**354.8**	**3,895**	**166.5**	**543.2**	**269.9**
ENID	NA	NA	NA	NA	NA	55	1.5	10.6	4.0
LAWTON	NA	NA	NA	NA	NA	75	3.5	14.6	12.1
OKLAHOMA CITY	118.6	125.1	136.0	141.7	151.3	1,430	47.9	210.4	103.6
TULSA	94.8	100.0	108.7	113.3	120.9	1,200	56.5	150.1	39.5
TEXAS	**2,493.1**	**2,718.5**	**2,928.6**	**3,039.8**	**3,211.8**	**32,960**	**973.9**	**3,382.1**	**1,321.3**
ABILENE	NA	NA	NA	NA	NA	230	4.5	25.4	9.2
AMARILLO	NA	NA	NA	NA	NA	205	8.7	38.0	15.2
AUSTIN	133.3	145.3	156.6	162.5	171.7	1,155	48.6	175.1	111.5
BEAUMONT-PORT ARTHUR	41.7	45.4	48.9	50.8	53.7	1,515	25.6	65.4	21.7
BRAZORIA	NA	NA	NA	NA	NA	2,305	16.8	20.8	12.6
BROWNSVILLE-HARLINGEN	NA	NA	NA	NA	NA	225	11.9	36.2	17.9
BRYAN-COLLEGE STATION	NA	NA	NA	NA	NA	205	3.4	20.2	24.9
CORPUS CHRISTI	38.8	42.3	45.6	47.3	50.0	1,035	12.3	62.4	31.6
DALLAS	739.1	805.9	868.2	901.2	952.2	5,515	214.2	745.2	163.9
EL PASO	101.9	111.1	119.7	124.2	131.2	545	41.0	89.2	45.0

ARIZONA
COLORADO
IDAHO
MONTANA
NEVADA
NEW MEXICO
UTAH
WYOMING

ALASKA
CALIFORNIA
HAWAII
OREGON
WASHINGTON

■ West South Central-continued

	EW estimates			EW forecasts		in thousands			
	1988	1989	1990	1991	1992	EC	M	F/S/RT	G
FT. WORTH-ARLINGTON	226.9	247.5	266.6	276.7	292.4	2,625	106.3	272.4	79.3
GALVESTON-TEXAS CITY	NA	NA	NA	NA	NA	270	8.6	31.0	22.9
HOUSTON	662.6	707.9	760.6	825.3	869.0	8,350	176.9	813.9	215.0
KILLEEN-TEMPLE	NA	NA	NA	NA	NA	260	8.5	32.6	23.0
LAREDO	NA	NA	NA	NA	NA	75	1.6	19.7	10.2
LONGVIEW-MARSHALL	NA	NA	NA	NA	NA	315	16.1	28.4	9.0
LUBBOCK	31.1	33.9	36.5	37.9	40.1	560	6.9	51.0	23.4
McALLEN-EDINBURG-MISSION	22.2	24.2	26.1	27.1	28.6	400	13.0	45.3	27.1
MIDLAND	NA	NA	NA	NA	NA	215	2.3	19.4	7.2
ODESSA	NA	NA	NA	NA	NA	560	4.4	18.5	8.3
SAN ANGELO	NA	NA	NA	NA	NA	155	4.9	16.9	7.9
SAN ANTONIO	178.8	195.0	210.0	218.0	230.4	2,195	43.5	277.5	122.5
SHERMAN-DENISON	NA	NA	NA	NA	NA	300	10.8	17.2	4.5
TEXARKANA	NA	NA	NA	NA	NA	165	6.5	20.6	11.5
TYLER	NA	NA	NA	NA	NA	110	10.6	30.9	9.9
VICTORIA	NA	NA	NA	NA	NA	115	3.1	13.8	5.5
WACO	NA	NA	NA	NA	NA	275	15.8	40.8	13.5
WICHITA FALLS	NA	NA	NA	NA	NA	220	8.0	22.9	9.8

■ Mountain

	EW estimates			EW forecasts		in thousands			
	1988	1989	1990	1991	1992	EC	M	F/S/RT	G
MOUNTAIN	**$1,607.0**	**$1,677.5**	**$1,755.4**	**$1,821.1**	**$1,910.1**	**25,925**	**642.5**	**3,065.3**	**1,178.9**
ARIZONA	**442.5**	**447.6**	**463.9**	**467.9**	**505.1**	**6,090**	**180.2**	**817.1**	**275.1**
PHOENIX	277.8	281.1	291.3	293.6	317.2	4,215	134.0	555.7	142.3
TUCSON	71.2	72.0	74.6	75.2	81.3	1,065	25.9	139.7	60.0
COLORADO	**401.0**	**426.2**	**426.9**	**453.2**	**470.9**	**7,480**	**190.2**	**785.3**	**291.0**
BOULDER-LONGMONT	C	C	C	C	C	405	30.0	51.3	24.4
COLORADO SPRINGS	32.1	34.2	34.2	36.3	37.8	NR	NR	NR	NR
DENVER	290.7	308.9	309.4	328.5	341.4	4,400	92.4	451.3	135.2
IDAHO	**114.5**	**131.3**	**145.3**	**160.7**	**163.2**	**1,580**	**62.5**	**176.5**	**86.5**
BOISE CITY	NA	NA	NA	NA	NA	320	16.2	51.5	20.4
MONTANA	**74.9**	**78.1**	**83.2**	**86.5**	**90.2**	**1,065**	**22.1**	**150.9**	**72.7**
NEVADA	**175.6**	**185.1**	**195.6**	**188.8**	**201.4**	**3,760**	**26.7**	**411.6**	**83.8**
LAS VEGAS	109.7	115.7	122.3	118.0	125.9	3,060	10.5	267.4	43.6
RENO	54.9	57.9	61.1	59.0	62.9	610	8.9	91.8	19.9
NEW MEXICO	**148.1**	**149.6**	**157.2**	**164.2**	**170.4**	**2,440**	**42.8**	**285.6**	**153.5**
ALBUQUERQUE	119.5	120.7	126.8	132.5	137.5	1,135	20.6	139.7	50.4
LAS CRUCES	NA	NA	NA	NA	NA	140	3.4	17.2	18.6
SANTA FE	NA	NA	NA	NA	NA	210	1.9	28.3	24.5

■ Mountain-continued

	EW estimates			EW forecasts		in thousands			
	1988	1989	1990	1991	1992	EC	M	F/S/RT	G
UTAH	**212.0**	**221.5**	**243.1**	**258.0**	**264.8**	**2,670**	**108.8**	**355.7**	**158.3**
PROVO-OREM	NA	NA	NA	NA	NA	205	14.3	55.3	15.6
SALT LAKE CITY-OGDEN	188.2	196.9	215.8	229.0	235.1	1,960	70.0	244.1	103.2
WYOMING	**38.4**	**38.1**	**40.2**	**42.2**	**44.0**	**845**	**9.2**	**82.7**	**58.0**
CASPER	NA	NA	NA	NA	NA	NR	1.8	14.5	5.4

■ Pacific

	EW estimates			EW forecasts		in thousands			
	1988	1989	1990	1991	1992	EC	M	F/S/RT	G
PACIFIC	**$6,158.2**	**$7,027.0**	**$7,433.4**	**$6,955.4**	**$7,323.5**	**77,455**	**2,647.1**	**8,702.5**	**2,972.0**
ALASKA	**62.2**	**83.7**	**91.3**	**103.8**	**109.4**	**915**	**18.2**	**100.2**	**71.5**
CALIFORNIA	**5,033.6**	**5,653.5**	**5,995.7**	**5,580.4**	**5,939.4**	**57,630**	**2,038.9**	**6,632.0**	**2,135.3**
ANAHEIM-SANTA ANA	521.3	587.0	622.5	579.4	616.7	6,930	245.2	664.9	131.2
BAKERSFIELD	78.0	87.7	93.0	86.5	92.1	1,465	10.9	74.4	46.5
FRESNO	66.6	74.8	79.4	73.9	78.6	1,180	26.6	113.1	56.1
LOS ANGELES-LONG BEACH	1,762.3	1,900.8	2,051.6	1,895.5	2,013.4	15,745	818.1	2,219.4	544.5
MODESTO	NA	NA	NA	NA	NA	645	23.4	53.0	21.8
OAKLAND	326.4	339.2	359.7	334.8	356.3	4,245	112.7	444.2	172.6
OXNORD-VENTURA	223.1	250.6	265.7	247.3	263.2	1,625	31.1	113.0	44.8
RIVERSIDE-SAN BERNARDINO	227.4	255.4	270.9	252.1	268.3	5,300	88.7	384.2	156.6
SACRAMENTO	150.2	168.7	178.9	166.5	177.2	2,765	44.7	301.5	189.0
SALINAS-SEASIDE-MONTEREY	NA	NA	NA	NA	NA	NA	10.8	57.9	29.0
SAN DIEGO	410.2	462.1	490.1	515.0	597.8	4,205	131.4	540.3	182.1
SAN FRANCISCO	449.3	466.8	495.1	460.8	490.4	3,795	78.1	580.2	142.2
SAN JOSE	334.5	375.7	398.4	370.8	394.7	3,725	255.9	381.0	90.7
SANTA BARBARA-LOMPOC SANTA MARIA	33.4	37.6	39.8	37.1	39.5	660	21.3	78.6	29.9
SANTA ROSA-PETALUMA	39.0	43.8	46.5	43.3	46.0	560	21.5	75.4	25.5
STOCKTON	55.7	62.6	66.4	61.8	65.8	655	24.2	71.0	35.1
VALLEJO-FAIRFIELD-NAPA	NA	NA	NA	NA	NA	1,116	12.2	66.6	38.0
HAWAII	**116.0**	**136.0**	**141.9**	**133.3**	**138.4**	**2,575**	**20.2**	**307.2**	**110.9**
HONOLULU	105.3	123.4	128.8	121.0	125.7	1,970	15.1	231.0	92.3
OREGON	**375.8**	**469.6**	**481.7**	**443.3**	**442.6**	**5,240**	**205.1**	**622.4**	**233.4**
EUGENE-SPRINGFIELD	33.3	41.6	42.6	39.2	39.2	345	18.6	57.1	25.8
MEDFORD	NA	NA	NA	NA	NA	NA	7.3	27.3	9.8
PORTLAND	232.9	291.0	298.4	274.7	274.2	3,045	102.0	335.0	87.9
SALEM	NA	NA	NA	NA	NA	360	13.9	48.3	32.7
WASHINGTON	**570.5**	**684.2**	**722.8**	**694.5**	**693.7**	**11,095**	**364.7**	**1,040.7**	**420.9**
SEATTLE	321.9	386.0	407.8	391.9	391.4	5,995	219.0	531.8	155.1
SPOKANE	53.8	64.5	68.1	65.5	65.4	NR	NR	NR	NR
TAKOMA	66.1	79.2	83.7	80.4	80.3	NR	NR	NR	NR
YAKIMA	38.5	46.2	48.8	46.9	46.9	NR	NR	NR	NR

NOTES TO THE REGIONAL FACTBOOK TABLES

PRODUCT MIX source: ELECTRICAL WHOLESALING survey conducted in 1989.
CUSTOMER MIX source: ELECTRICAL WHOLESALING survey conducted in 1989.
MARKET MIX source: ELECTRICAL WHOLESALING survey conducted in 1985.

ELECTRICAL WHOLESALERS' SALES: All sales figures have been benchmarked to the 1987 Census of Wholesale Trade data for merchant wholesalers of electrical apparatus and supplies, S.I.C. 5063. Sales figures for 1988, 1989 and 1990 represent ELECTRICAL WHOLESALING's best estimates and were derived from ELECTRICAL WHOLESALING surveys conducted in the following year. Sales forecasts for 1991 and 1992 are based on electrical wholesalers' forecasts, gathered in an ELECTRICAL WHOLESALING survey conducted in July 1991. All sales figures in this report are our best estimates and should be taken as reasonable approximations rather than as absolute fact. MSA – Metropolitan Statistical Area.

EMPLOYMENT sources: Employment and Earnings, U.S. Department of Labor, Bureau of Labor Statistics. County Business Patterns: 1986, U.S. Department of Commerce, Bureau of the Census. Data for electrical contractors' employees and for employment in retail trade estimated by ELECTRICAL WHOLESALING.

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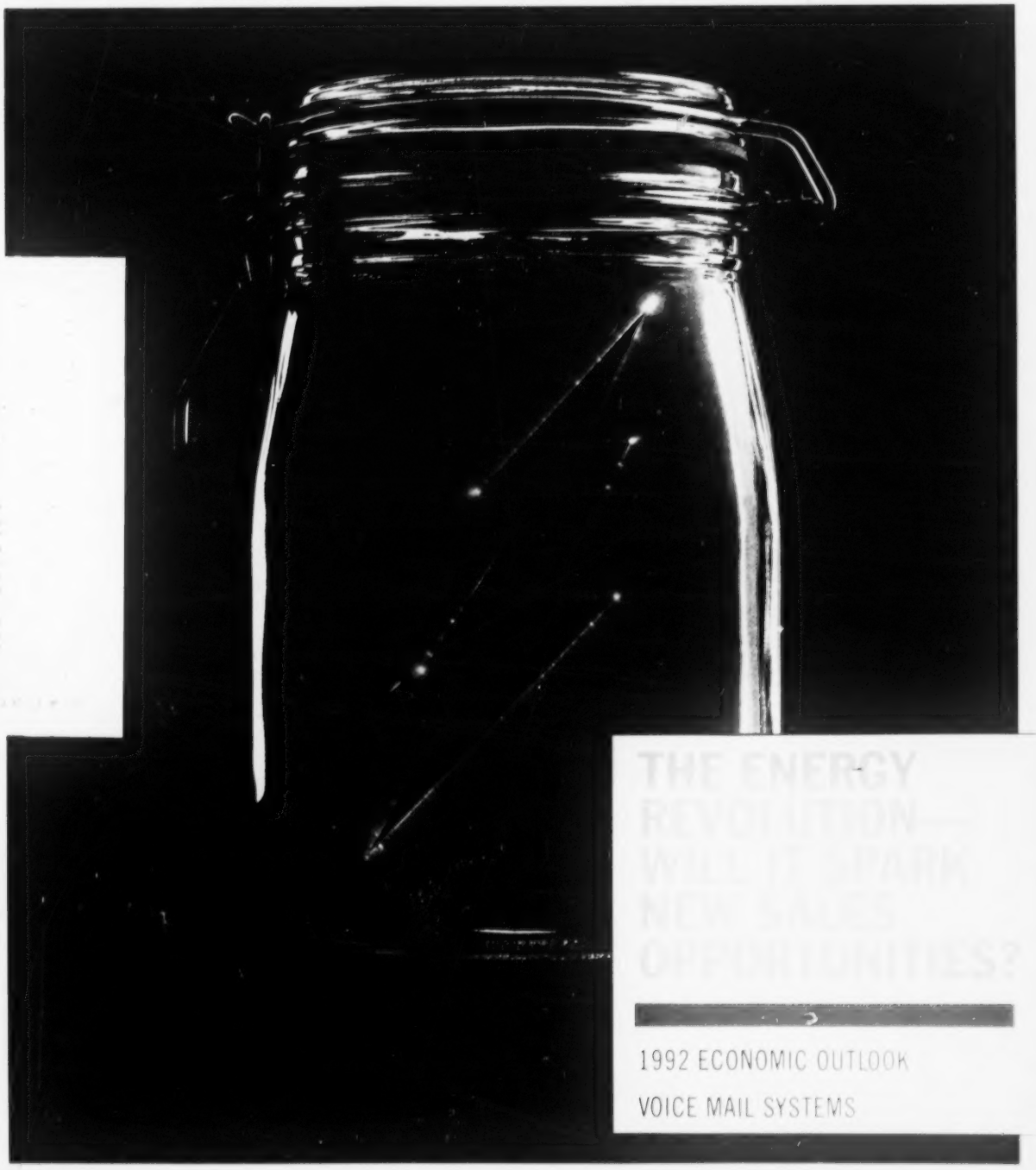
ELECTRICAL WHOLESALING



THE ENERGY REVOLUTION— WHERE ARE THE NEW SALES OPPORTUNITIES?

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VOLUME 72
NUMBER 12

ELECTRICAL WHOLESALING

DECEMBER
1991

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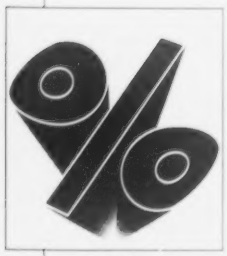

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THE PUBLISHER'S NOTE

Most people refer to ELECTRICAL WHOLESALING's December issue as our "Outlook Issue," because each year it contains an article that analyzes how the economy will likely affect electrical distributors. This issue does exactly that, with a straight-to-the-point article by *Fortune* magazine economist Joseph Spiers.

But we try to offer much more, and I think Chief Editor Andrea Herbert and her staff have assembled a remarkable package for you in this issue. Some highlights:

"Forecast 1992," page 51. Besides the overall economic outlook, author Joseph Spiers identifies which of your customers are likely to grow next year.

"Remembering 1991," page 45. Executive Editor Jim Lucy does a great job summarizing key industry developments and identifying the sales opportunities they create for you.

"Bottling energy savings," page 41. Associate Editor Dean Holstein gives 10 practical ideas for cashing in on the boom in energy-saving equipment.

There's also a special advertising section where top electrical manufacturers show how their companies are poised to help you find every scrap of business that's out there. It's called "View From the Top," and begins on page 17.

This has been a tough year for most of us in the electrical industry. At ELECTRICAL WHOLESALING, we're dedicated to helping you succeed despite these challenging times. We believe issues like this will help you do just that.

Rich Hathaway

RICH HATHAWAY, Publisher

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FORECAST 1992

ALL EYES ARE ON THE ECONOMY—AND THE TURNS IT MAY HAVE IN STORE—IN THE YEAR AHEAD.

■ However bad the economy was in 1991, it was by no means hell—hell was 1974-75 when OPEC unleashed itself on the world; hell was 1981-82 when the unemployment rate topped 10%, the prime rate was 20% and the U.S.'s manufacturing base crumbled. Today, energy prices are modest and don't threaten to spike, the unemployment rate is under 7%, interest rates are relatively low and U.S. manufacturing has become a lean, mean export machine.

But all the improvement is small consolation to businesses that are struggling today, worrying that things won't get better. It's the fear of the future, the pessimistic mood of business and consumers, that is so different now than in the past, when the immediate conditions were worse. It's not hell, all right, but it's a kind of purgatory— uncertainty without end. It didn't start with Iraq's invasion of Kuwait, which triggered the recession itself through soaring oil prices and plunging consumer confidence. It started a year before that when the economy started to just creep along. So we've been in this purgatory for two and a half years, even though the actual recession may have lasted less than a year.

In the face of this uncertainty, businesses slashed employment in the fall of 1990 and the early months of 1991, making it yet more difficult for fearful consumers to buy much. Since the economy started showing tentative signs of life in the spring, businesses have hired at only a very halting pace; and they have continued to cut their inventories.

By Joseph N. Spiers

The author is an Associate Editor and Economist for Fortune *magazine.*

Fortune's economists believe hiring will pick up gradually and inventories will grow enough to boost the economy about 3% in 1992. That's not a bad growth rate on average, but it's only half the rate of a typical recovery. Given today's glum mood, why expect even half a loaf? Exports will play an important role. Since getting their act together in the mid-1980s, American manufacturers have boosted productivity sharply, more so than those in any other major country except Japan. Costs are under control and prices are highly competitive in world markets.

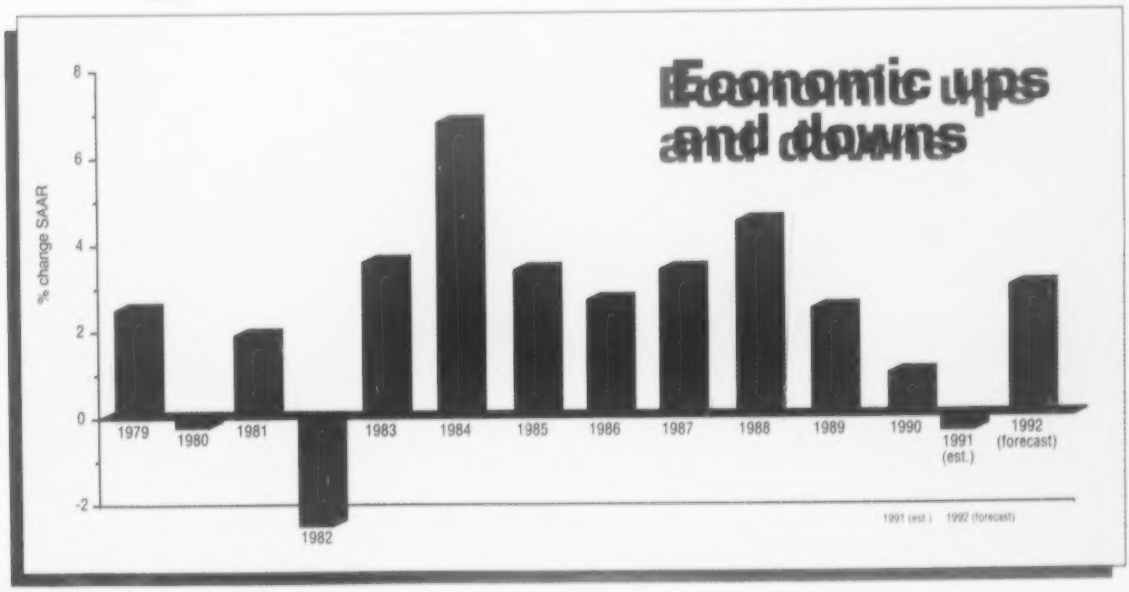
Construction of single-family homes will also provide a lift to demand in 1992. Mortgage rates are the lowest they've been in a decade and a half. And builders realize that people don't want to pay for a Jacuzzi anymore, so they're developing less expensive models. On the cost side, then, things look good for potential buyers. On the demand side, job worries are, of course, a major impediment. But only a tiny fraction of the population buys a house in any given year. With financing costs low and prices attractive, enough buyers should step forward to support an increase in home building. Shoring up demand will be a continuing increase in buying by single people and unmarried couples. At the same time, a jump in births in the last few years to married women may stimulate some demand for new housing as couples seek more space and amenities for their growing families. *Fortune* predicts a nearly 20% rise in single-family housing starts in 1992. That looks good, and would of course be welcomed by electrical wholesalers. But don't forget that the expected increase is from a depressed base. The predicted number of starts next year—990,000—would fall well below the level of activity in the late 1980s, in part because builders will continue to have difficulty getting bank loans.

Apartment and condo construction could show a small gain in 1992, but that's simply because starts in 1991 fell so low, to an estimated 180,000, the lowest on the record, which stretches back to the 1950s. The overhang of tax-shelter-inspired apartment and condo complexes remains a serious problem. So does the relatively small number of people entering their twenties, the prime renting years. Any rise in construction in 1992 would reflect the need to replace units that became dilapidated or went out of service for other reasons.

The big player needed to push the economy forward is the consumer. Here's the perceived rub: If consumers are to spend and thus bolster business confidence, they need money, which means they need jobs, which means businesses must hire, which they are afraid to do because they are pessimistic, so consumers won't have the money to spend to make business more optimistic. Consumers, however, have actually been doing their darndest to help out by spending nearly every cent they've earned. (That's dangerous in the long run because the economy needs savings to plow into plant and equipment, but right now we're in a difficult short run.) As a result, consumer spending has risen at a respectable 3% inflation-adjusted rate since last winter. Consumers, meanwhile, have been paring the huge debt they piled up in the 1980s, which means that 3% growth in spending is sustainable. But it's going to take some time before continued—albeit unexciting and often halting—consumer spending prompts business executives to lift their hiring plans.

Another fairly positive sign: Executives seem willing to invest in equipment. Since plunging in 1991's first quarter, business purchases of capital equipment have rebounded nicely. The catch is that the rebound is not widespread—it's been concentrated in computers and commercial aircraft. Investment in industrial equipment has declined in recent quarters; as of the third quarter of 1991, it was down 12% from a year earlier. Look for computers and aircraft to continue upward in 1992. Technological advances and productivity enhancement drive computer purchases. Commercial aircraft backlogs are bound to descend from their lofty heights, but deliveries will grow, reflecting the mass of orders placed in the last five years. Demand for industrial equipment should turn around as continued consumer spending eats away at inventories and companies hike production. Industrial equipment demand will also be coming from manufacturers with good export business. The equipment side of capital investment will thus do fairly well, but still less well than in other recoveries because consumer demand will be held back by debt fears.

The other part of capital invest-



ment—nonresidential construction—will sink further. Electrical wholesalers don't have to be told about the sorry state of commercial construction. But let it be noted that the big declines foreseen after the 1986 Tax Act, which took away real estate investment tax benefits, didn't materialize for a long time. Office buildings in the pipeline kept coming to completion, adding yet more unwanted space to markets with already sky-high vacancy rates. But in the past year, the commercial building market reaped what it had sowed: Real outlays on new offices plunged nearly 30%, as did those on retail buildings; for hotels, they were down nearly 50%. The drama will subside in 1992, but the direction will be the same.

If you're looking for some nonresidential construction customers in 1992, go back to school. State and local governments raised a record sum in 1991 for capital improvements and school building. Not only is education politically popular, but the baby boomlet that began in the late 1980s is fueling the physical need for more classrooms. So ironically, governments that face tremendous fiscal crunches are spending a huge amount on construction.

Outside of construction, state and local governments will be a drag on the economy. They've already laid off thousands of workers and will likely have to lay off more. The private sector may feel it's about time that government tightened its belt—all well and good. But at the moment it means fewer people with paychecks, thus reduced demand for goods and services the private sector provides. While cutting jobs, state governments in 1991 raised taxes and fees a record $19 billion, another damper on demand. Why this big tax increase? Less revenue due to the recession and relentless spending pressure from education, Medicaid and prisons.

Federal government spending will clearly not prime the economy's pump in 1992 because in the short run the peace dividend means defense plant layoffs. Spending will also be constrained by the deficit, which hit a record $280 billion in the last fiscal year and is headed to $350 billion this year. The budget agreement struck in late 1990 caps spending growth unless new revenues are provided and requires that tax cuts be offset with spending cuts, so no net stimulus can come if the agreement stays in force. But after Harris Wofford beat Bush-proxy Richard Thornburgh in the U.S. Senate race in Pennsylvania and after New Jerseyans protested higher taxes by dumping Governor Jim Florio's Democrats, it looked more likely that the budget agreement would be deep-sixed and taxes would be cut. Still, by the time a tax plan is enacted and by the time people actually get cash in hand, much of 1992 could be history. What's more, experience shows that if taxpayers view a cut as temporary, they don't immediately go out and spend their mini-windfall. So don't let talk of tax cuts raise your assessment of business conditions in 1992.

If policy is to juice the economy, that leaves the Federal Reserve, which already has helped push interest rates down significantly in the past year. Lower rates don't seem to have helped a lot, however. If mortgage rates were the sole factor in housing, starts would be much higher than they are. Car-loan rates have come down, as have rates on home-equity loans, which can be used to finance car purchases, yet auto sales as of October were dismal. Lower rates boost bank earnings, allowing more loans. But that doesn't make a big difference if loan demand from credit-worthy borrowers is weak. The upshot: The private sector will primarily have to grind it next year, waiting for gradual improvement, despite the best intentions of the Fed.

For electrical wholesalers that means focusing business on manufacturers who export, who serve the commercial aircraft or computer markets, or who make productivity-boosting industrial equipment. To a lesser extent, look to home builders and companies that supply residential building materials, home furnishings and appliances. Private-sector nonresidential construction markets will be a disaster. But in some localities public nonresidential building will be strong.

In some localities, too, overall business will be a lot stronger than in others. The recession primarily hit the East Coast and California. In contrast, nearly every state west of the Mississippi River has enjoyed employment growth during the past year. And the Midwest has maintained its employment thanks to exports; the exception is Michigan, which depends much more on autos than do other states in the region.

The regional economic patterns established in 1990 will carry through 1992. States with lower labor and housing costs will attract businesses from higher-cost states. States bordering California, for example, have attracted both companies and individuals fleeing stratospheric housing costs and higher taxes, not to mention smog, crime and congestion.

So opportunities for individual electrical wholesalers will vary widely in 1992. Times will remain especially tough in the Northeast. But on the whole, most wholesalers can expect business to expand—albeit modestly—in 1992. □

YOUR SALES OUTLOOK

■ Predictions from the field

	1991	1992
NEW ENGLAND	**- 4.3%**	**+3.5%**
CONNECTICUT	- 6.2%	+2.9%
MAINE	S	S
MASSACHUSETTS	- 3.6%	+3.6%
NEW HAMPSHIRE	S	S
RHODE ISLAND	S	S
VERMONT	S	S
MIDDLE ATLANTIC	**- 2.5%**	**+ 6.2%**
NEW JERSEY	- 6.2%	+ 6.1%
NEW YORK	+ 0.4%	+ 5.4%
PENNSYLVANIA	- 6.5%	+ 6.7%
EAST NORTH CENTRAL	**- 0.7%**	**+ 6.9%**
ILLINOIS	+ 1.9%	+ 7.1%
INDIANA	+ 6.3%	+ 9.5%
MICHIGAN	- 5.4%	+ 7.4%
OHIO	- 1.2%	+ 5.5%
WISCONSIN	+ 3.4%	+ 7.0%
WEST NORTH CENTRAL	**+ 0.7%**	**+ 6.9%**
IOWA	+ 0.3%	+ 5.7%
KANSAS	S	S
MINNESOTA	S	S
MISSOURI	+ 1.3%	+ 8.4%
NEBRASKA	+ 0.2%	+ 5.8%
NORTH DAKOTA	S	S
SOUTH DAKOTA	S	S
SOUTH ATLANTIC	**- 7.5%**	**+ 7.3%**
DELAWARE	- 2.8%	+ 6.5%
D.C.	S	S
FLORIDA	- 7.7%	+ 7.1%
GEORGIA	- 1.7%	+10.9%
MARYLAND	-14.3%	+ 7.6%
NORTH CAROLINA	- 7.8%	+ 8.1%
SOUTH CAROLINA	- 5.6%	+ 0.9%
VIRGINIA	-13.5%	+ 8.9%
WEST VIRGINIA	- 4.9%	+ 5.3%
EAST SOUTH CENTRAL	**- 3.9%**	**+ 5.6%**
ALABAMA	- 3.7%	+ 8.2%
KENTUCKY	- 7.4%	+ 4.2%
MISSISSIPPI	- 3.2%	+ 0.9%
TENNESSEE	- 4.1%	+ 6.5%
WEST SOUTH CENTRAL	**+ 4.1%**	**+ 5.6%**
ARKANSAS	S	S
LOUISIANA	+10.1%	+ 1.1%
OKLAHOMA	S	S
TEXAS	+ 5.4%	+ 5.1%
MOUNTAIN	**+ 3.6%**	**+ 5.3%**
ARIZONA	*	+ 9.0%
COLORADO	+ 5.3%	+ 4.9%
IDAHO	+ 9.7%	+ 2.5%
MONTANA	S	S
NEVADA	- 4.3%	+ 7.7%
NEW MEXICO	S	S
UTAH	S	S
WYOMING	S	S
PACIFIC	**- 6.6%**	**+ 5.7%**
ALASKA	+12.9%	+ 7.2%
CALIFORNIA	- 7.5%	+ 8.3%
HAWAII	S	S
OREGON	- 8.1%	+ 1.6%
WASHINGTON	- 4.5%	+ 1.6%

S = Insufficient returns *Less than .1%

Based on an ELECTRICAL WHOLESALING survey of electrical distributors conducted in August 1991.

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ELECTRICAL WHOLESALING

ELECTRIC SUPPLY & EQUIPMENT CO. PROMISES PERFORMANCE

PRODUCT LAUNCHES

NEW ENGLAND MARKET

VOLUME 73
NUMBER 1

ELECTRICAL WHOLESALING

JANUARY
1992

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THE PUBLISHER'S NOTE

Tom Preston was one of the finest men I ever knew. By his example, he kept me centered on a fundamental truth about business; it's people who count—more than companies, more than the latest strategic plan and more than the politics inherent in any enterprise.

In addition, he was a rarity among journalists these days: someone who dedicated an entire career to one industry, and someone who truly loved that industry and the people in it. "I'm a lover, not a fighter," he often said.

That's what Tom said, but we knew it wasn't entirely true. We saw his anger when he felt an injustice was being done to a person or an organization. In those situations he was a fighter. A tireless one. He fought injustice with the same determination he fought the cancer that finally took him.

Tom knew that day would come. In his final years, he and Andrea Herbert focused on developing the skills of the staff that would be the future of ELECTRICAL WHOLESALING and its sister publication *Electrical Marketing* newsletter. Tom and Andrea have done a wonderful job. It's not just me who thinks so: everywhere I travel, I'm complimented that both publications are "better than ever."

We have rededicated ourselves to upholding the traditions of editorial excellence and fairness that were Tom Preston's hallmark. Tom touched all of us. His spirit is alive in each of us and in the magazine he loved—and fought for.

Rich Hathaway

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from entering the enclosure through this hole.

Now, he will need what is called a "starter." A starter consists of two products—one is a contactor, one is an overload protection. They are sold together as starters, or separately as named so if one wears out at a later date, it can be replaced. But for now, he needs the whole package. He needs a starter.

To get the starter to start and stop the motor, he will need to buy pushbuttons. Pushbuttons come in standard, small and miniature sizes, also round and square, lighted and not lighted, so he will have to decide which he wants. Once he decides, he will order those with the same NEMA rating as his enclosure.

Now, because no human hand can touch anything wired up to three-phase, 220V without the threat of electrocution, the customer must buy a transformer to "step down" the 220V to 110V, so he will also buy a step-down transformer to bring power to the pushbuttons and other control circuitry.

He still has another problem. What if something happens and too much electricity (a spike) comes over the lines? All his equipment will blow up or be damaged. So to prevent that, he will also buy fuses and/or circuit breakers. If he buys fuses, he will also buy fuse holders to mount them in.

In case he needs to cut off the power to work on the equipment in the enclosure someday, he has to buy a disconnect switch. Once all of this is assembled in the enclosure, it is usually referred to as a panel or panel box.

Now that he has bought all this stuff, he has to buy wire to hook up all these things to each other. He also needs terminal blocks to wire all of these devices together, and wiring duct to lay all these wires in so they look neat. He will also need wire or cable to run from the starter to his motor.

As he runs the cable out to the motor, he remembers that there is an electrical safety code—the National Electrical Code—which mandates having a safety switch near the motor to shut it off in case of emergency. He buys that, too.

Finally, everything is hooked up and ready to go. Now he will take out his tool box and tests the line. If he doesn't have the proper test equipment, he will have to purchase that, too.

Finally, all systems are go. He starts his motor. The motor starts and his conveyor jerks into action. All of the machined wooden drumsticks fall to the floor and break. He curses. Now he has to buy something else.

He can buy what is called a "soft-start." He will wire in that product between the motor and starter; and when he pushes the button, his conveyor will start up and stop gradually without knocking off any of the drumsticks. (If he hadn't already purchased his starter, he could have purchased a reduced voltage starter for this application.)

But now, before he buys a soft-start to wire in, he realizes that there will also be times when he wants to slow down the conveyor when it's running and times when he may want to speed it up. So instead of a soft-start, he decides to buy an adjustable frequency controller, also called a variable-frequency drive (VFD). He knows several manufacturers make these, and he will have to find which one best suits his application. He checks them out and buys one.

He takes the starter out of the enclosure and mounts the variable-frequency drive. He puts the starter on the shelf in the storeroom, hoping he can use it somewhere else.

Now he pushes the start button again and runs out to see what happened at the conveyor. After running back and forth from the motor to the enclosure to speed up and slow down the conveyor a couple of times, he decides to put a pushbutton station right next to the conveyor. He has to buy that, too.

That's real basic stuff, Lisa. There are hundreds of other products that customers also buy from us to put inside and outside enclosures. And there is much more to be told about electrical power and how it gets brought from the power company to the wall switch or motor in the plant.

When you would like to know more, I will be glad to expound on it.

Sam's letter explaining electrical terminology and product relationships ultimately increased Lisa's self-confidence. Co-workers noticed. Lisa showed them the letter. Several wanted copies. One salesperson passed it on to a panel builder's receptionist who offhandedly complained of not understanding things. Another gave it to a buyer.

That letter helped keep a valued employee; and it made the company's entire team tougher to beat.

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The names of people and companies mentioned in this article are fictitious. No reference to any real person or company is intended.

ECONOMIC UPDATE

WISHFUL THINKING?

DISTRIBUTORS FROM THE SOUTH SEEM OVERLY OPTIMISITC ABOUT 1992.

■ All across the South, in the 16 states that make up the region, electrical distributors expect a rebound in sales growth in 1992, following a 1991 that most will be glad to put behind them. Three distinct areas make up the South, and in all of them distributors expect their sales to increase at a rate about 5% to 7%. That's right in the same narrow range as the predictions given by other distributors in all areas of the country except New England. (In that recession-ravaged area, distributors hope for a 3.5% gain in 1992.)

Electrical distributors in the southern states along the Atlantic Coast expect business growth in 1992 to be about 7.3%, the highest among wholesalers across the country. This prediction means they hope to offset the estimated drop in sales of -7.5% that occurred in 1991.

The state of Florida dominates this area of the South, with expected sales of $1.7 billion in 1992, representing predicted growth of 7.1%. All other states in this South Atlantic region expect positive growth, from a high of 10.9% in Georgia to a low of 5.3% in West Virginia.

Distributors in Texas, the largest state in the South, expected to have a decent 1992, with an increase in sales of 5.1%. That gain would bring sales for Texas to $3.2 billion in 1992. The states surrounding Texas predicted sales increases, too. For the region including Texas, Louisiana, Arkansas and Oklahoma, the outlook is for 5.6% growth in 1992, on the low side among the nine regions that make up the U.S. But that may be the most achievable rate of growth in 1992 put forth by distributors. In these West South Central states, the electrical wholesaling business is coming off a not-so-bad 1991 with an estimated 4.1% growth. That makes it one of only two regions where distributors are not trying to make up 1991 losses in 1992, then to go on to achieve growth on top of that.

In the Deep South, distributors in the states of Alabama, Kentucky, Mississippi and Tennessee look forward to a better performance in 1992 with a 5.6% increase forecast for the year. In 1991, they were down about 3.9%.

Nationwide, electrical wholesalers

1992 SALES FORECASTS

■ Hope beyond reason?

STATE	DISTRIBUTORS' FORECAST % CHANGE	EW SALES FORECAST ($ millions)
ALABAMA	8.2%	$ 643.2
ARKANSAS	S	308.8
DELAWARE	6.5%	140.0
DISTRICT OF COLUMBIA	S	S
FLORIDA	7.1%	1,664.9
GEORGIA	10.9%	1,356.8
KENTUCKY	4.2%	416.8
LOUISIANA	1.1%	705.7
MARYLAND	7.6%	702.6
MISSISSIPPI	0.9%	171.6
NORTH CAROLINA	8.1%	1,042.9
OKLAHOMA	S	354.8
SOUTH CAROLINA	0.9%	389.2
TENNESSEE	6.5%	841.4
TEXAS	5.1%	3,211.8
VIRGINIA	8.9%	1,021.9
WEST VIRGINIA	5.3%	205.3

S—insufficient returns

forecast a growth of 5.8% in sales in 1992. If this prediction is on target, it would mean a rebound in growth after a drop in sales in 1991. At the time the survey to gather the forecasts was taken in August of 1991, sales for 1991 were expected to drop by about -3.0%. At that time, the pundits were saying that the recession was over; now it seems little economic improvement has taken place, it leads one to believe that electrical distributors would make different projections for 1992 were the survey done later in the year.

Texas and Florida dominate the South with expected electrical wholesaler sales of $3.2 billion and $1.6 billion, respectively, in 1992. Georgia has been moving up in size and is anticipated to come in at $1.3 billion, followed by Virginia and North Carolina, each at $1.0 billion. The South has three of the top ten states for electrical distributor sales: No. 2 Texas, No. 5 Florida and No. 9 Georgia.

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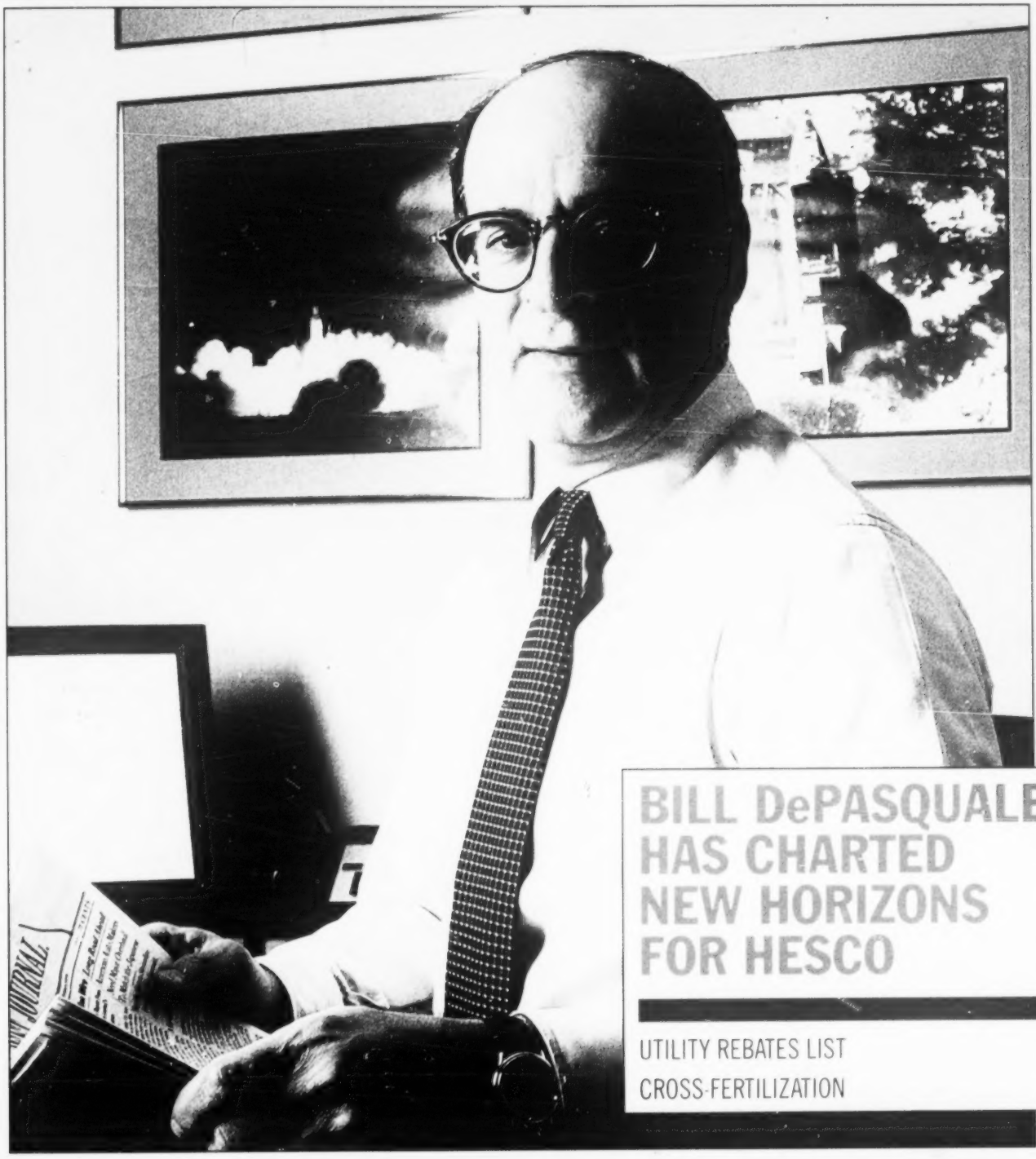

BILL DePASQUALE HAS CHARTED NEW HORIZONS FOR HESCO

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CROSS-FERTILIZATION

VOLUME 73
NUMBER 2

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FEBRUARY
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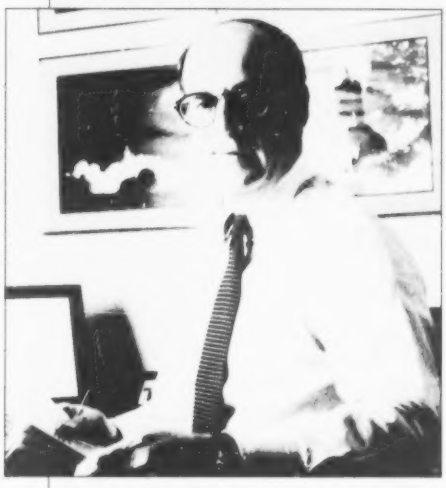

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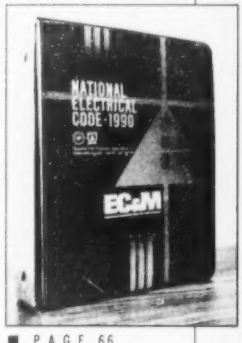

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THE PUBLISHER'S NOTE

A speaker at a recent NAED regional meeting urged his audience to attempt a "paradigm shift." Look beyond not only the traditional ways you do things, even look beyond the traditional ways you *think* about things, he urged. Don't be constrained by past history, the conventional wisdom, or what is expected.

That could well be the theme of this issue. You will find original thinking in several of the stories:

• Fox Electric Supply in Philadelphia saw more and more electrical contractors shopping at home centers. So they set up three branches with supermarket-style aisles instead of traditional counters, credit card payments, debit cards, and evening and weekend hours. (See "Electrical Supermarket," beginning on page 51.)

• For years Hartford Electrical Supply did 85% of its volume with OEMs. The manufacturing slump in New England threatened that. So HESCO had to rethink the way they were doing business. The results, reported in "HESCO's Revolution," beginning on page 23, include a renewed focus on the more profitable customers, hiring a different mix of people to serve the MRO market, carefully monitoring the effects of macroeconomic trends on local customers, and restructuring the company to better serve its new customer mix.

The speaker at the NAED meeting was right about the need for a paradigm shift. But that doesn't come easy. Part of our mission at ELECTRICAL WHOLESALING is to comb the country for the more innovative ideas and share them with you. You'll find several borrowable ideas in this issue.

Rich Hathaway

RICH HATHAWAY, Publisher

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ECONOMIC UPDATE

EAST IN CRISIS

ELECTRICAL DISTRIBUTORS IN THE EAST HOPE 1992 PROVES A TURNING POINT.

■ For electrical distributors in New England and the Middle Atlantic states, it must seem as if they've been down so long that there is no way but up. Markets have been at a virtual standstill for well over a year. Nonetheless, with what may be the triumph of hope over reality, distributors in the area are predicting modest improvement in business in 1992.

For much of the 1980s, business was booming along for electrical distributors in the East. The tide began to turn in 1989, however. Then came 1990, with full-blown economic recession in New England and deteriorating business conditions in the Middle Atlantic states. By 1991, some in New England were calling the situation a depression. In our survey taken in August of 1991, distributors in New England were saying 1991 would be down 4.3%, while those in the Middle Atlantic states were anticipating a 0.2% drop for the year.

At that time, Eastern distributors were hoping that 1992 would improve their situations. New England distributors predict a rebound of +3.5% growth in sales in 1992, while those in the Middle Atlantic states forecast a +6.2% performance. It is likely that the predictions look the way they do for two reasons: First, because they are made by the survivors. A number of firms have gone out of business (especially in New England) which has the effect of stabilizing the situation for those that remain. Some companies may be holding steady or seeing an uptick in business because they are picking up the customers of the companies that have closed their doors.

The second reason the predictions may seem overly positive is the timing of the survey, which was taken in the summer of 1991. At that time, the pundits were saying that the recession was over; now the talk is of a "double-dip" recession. It leads one to believe that electrical distributors would have reacted to the economic climate and made different projections for 1992 were the survey done later in the year or early this year.

Nationwide, electrical wholesalers forecast 5.8% growth in 1992. If this prediction is on target, it would mean an upturn in growth after a drop in 1991, which was expected to come in at -3.0%.

The East Coast states are a contrast in very large and very small. Among the nine states in this area are four of the smallest states in the country in terms of electrical distributor sales (Vermont, New Hampshire, Rhode Island and Maine) and three of the largest (New York, New Jersey and Pennsylvania). □

1992 SALES FORECASTS

■ The East: hope burns on

STATE	DISTRIBUTORS' FORECAST % CHANGE	EW SALES FORECAST ($ millions)
CONNECTICUT	+2.9%	$633.4
MAINE	S	118.9
MASSACHUSETTS	+3.6%	986.0
NEW HAMPSHIRE	S	121.2
NEW JERSEY	+6.1%	1,561.3
NEW YORK	+5.4%	3,123.9
PENNSYLVANIA	+6.7%	1,680.2
RHODE ISLAND	S	97.2
VERMONT	S	72.8

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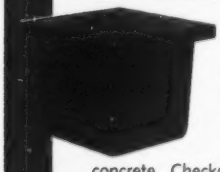

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THE PUBLISHER'S NOTE

It looks real simple: Find out who the largest electrical distributors in the country are and list them in a table.

It's not that simple. At all.

Creating the "250 Biggest" listing you find in this month's issue, took *months* of intense work by Editorial Director Andrea Herbert and her staff. They spent that time researching, mailing, faxing, phoning, compiling, confirming. They needed to be on top of all the mergers and acquisitions that continue to shape this industry. They've had to have their ears to the ground to see who's up and coming. In fact, one of the toughest parts of the job is determining who should get our survey form. That effort paid off: This year's listing has over 20 companies who were not on the list a year ago.

We've also had your cooperation, for which I thank you. This year Andrea had the best response ever to her survey. She attributes that to the industry's growing sophistication; the better we all understand the forces shaping our industry—such as the consolidation apparent in this year's listing—the better we as publishers and you as electrical distributors, manufacturers and independent reps can adapt and grow.

If you received one of our survey forms or phone calls, you have a sense of the hard work it took to compile all the information that goes into our annual "250 Biggest" feature. Thanks to everyone involved — both readers and editorial staff — for making this exclusive industry resource possible.

Rich Hathaway

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250 BIGGEST

ELECTRICAL WHOLESALING'S RANKING OF THE LARGEST U.S. ELECTRICAL DISTRIBUTORS IS AN INDUSTRY EVENT.

■ "Down-size" emerged as the watchword in the industry in 1991. A difficult year, indeed, it was dominated by a deep and drawn-out recession. Just how difficult it was for electrical distributors reflects in our 1992 ranking of the 250 biggest among them. For company after company on the list, the year meant lower sales, staff cuts and branch closings.

Although acquisitions, mergers, closures/failures and down-sizing continued in the industry in 1991, the pace slowed for the bigger distributors. Considerable acquisition activity has taken place in the spring of 1992, however; some of it will show up in the data on this listing, some will be recorded on the next listing, in 1993.

Since last spring when the previous list was prepared, three of the companies on that list were acquired by other firms on the list; one gave us its 1991 results, but has since been sold. One has been blended into an associated company and one has gone out of business. A number of companies from the New England and Middle Atlantic states especially have down-sized to the point that they no longer qualify for the ranking. At least two of the distributorships on this list are operating under Chapter 11 of the Federal bankruptcy code.

Most firms on this year's list could be seen to have reduced the number of employees on the payroll since last year. Due to a difference in our methodology—this time we rank the group entirely by sales volume, whereas last year we did the top half of the list by sales and the bottom half by employee count—it's impossible to compare the cutoff points between the two rankings. This year it seems to fall around $13 million in sales or 57 employees.

Across the board, these distributors appear to have reduced staff by about 5%. That effort to pare down paid off. On the productivity front, these large companies as a group took a step forward. The sales per employee for the companies in this year's ranking (based on the 159 distributorships that furnished both employee counts and 1991 sales figures) rose to $325,000 from $295,000, an increase close to 10% in one year. The gain in productivity ran counter to the direction sales took last year. Recession-wracked in 1991, industry sales are thought to have dropped on the order of 3% or more. The sales picture, of course, varied considerably by region.

In addition to providing an overview of activity among the companies at the top of the electrical distribution industry, this ranking gives a guide to the entire industry's size and structure. In total, the 250 firms listed here employ 52,813 people in electrical wholesale operations. That figure includes data on several companies whose number of employees we estimated through internal or industry sources. They accounted for approximately $17.2 billion in sales in 1991. With electrical wholesaling industry sales around $38 billion in 1991, these 250 firms do around 45% of the industry's business.

These facts underscore two points about the electrical wholesaling industry. First, they show that even though the large, visible firms tend to get a lot of attention, it is smaller firms, with fewer than 60 employees each, that do the bulk of the business in the industry—about 55% of it.

Second, they reveal the meaning of "big" and "small" in the electrical wholesaling industry. While there are a number of firms with hundreds of employees and a few with thousands, a firm with only 50 or 60 employees stands among the biggest in the business. Of the estimated 5,000 or more U.S. electrical supply houses, 95% have fewer than 60 employees.

Among the companies on the list are the following:

The national chains. GE Supply Co., Bridgeport, Conn.; Graybar Electric Co., St. Louis, Mo.; and Westinghouse Electric Supply Co., Pittsburgh, Pa., have long been known in the industry as the national chains. In the mid-1980s, Consolidated Electrical Distributors, Inc., Westlake Village, Calif., joined their ranks. These four electrical distributors employ approximately 13,429 people, if our estimates are accurate. Based on industry input, their combined sales volume could approximate as much as $6 billion, or a bit more than 15% of industry sales. This percentage stands a tad higher than we calculated it to be last time, but we would ascribe that to the variability in the estimates included on several of these very large companies. The increased market share percentage does not necessarily stand as evidence that the national chains are taking over the industry.

If we were to include two other companies—the wire and cable distributor Anixter Bros., Skokie, Ill., and W.W. Grainger, Inc., Chicago, Ill., the general-line MRO supplier with considerable business in electrical products—in

By Andrea Herbert, Editorial Director

the national chain category, where they logically belong by virtue of the number of houses each has and their representation in most states, the category's employee count, sales volume and market share would be even larger.

The super-regional chains. This term is the designation we give to large chain distributorships that have spread beyond regional boundaries. Six in number, they include All-Phase Electric Supply Co., Benton Harbor, Mich.; Consolidated Electric Supply, Inc., Miami, Fla.; Crescent Electric Supply Co., East Dubuque, Ill.; EESCO, Inc., Chicago, Ill.; Noland Co., Newport News, Va.; and Summers Group, Dallas, Tex. Together they employ around 5,950 people and account for $1.8 billion in sales, approaching 5% of industry sales. Their market share appears to have edged back slightly since the last listing.

For the sake of comparison, we kept the super-regional chain group from last year intact; but the question of which firms truly fall into the super-regional category became somewhat problematic this year. The definition has been somewhat loose, in any event. Platt Electric Supply, Inc., Beaverton, Ore., certainly stands on the brink of super-regional status. Likewise do Cameron and Barkley Co., Electrical Division, Charleston, S.C., and Stuart C. Irby Co., Jackson, Miss. Branch Group, Inc., Upper Marlboro, Md., by reporting its data combined with that of affiliated companies in New England, brings itself closer, if not into the super-regional level of coverage. Southern Electric Supply Co., Meridian, Miss., has been near to super-regional chain status in recent years. Its upcoming merger into Willcox & Gibbs, Inc., parent company of Consolidated Electric Supply, puts a different twist on the equation. Since that deal will take place this year, we did not attempt to adjust for the change on this listing, which reports 1991 data.

The regional chains. In this listing, we count 39 electrical wholesalers with five or more branches in three or more states, our definition of a regional chain. Other such chain distributors exist in the industry, but since they have fewer employees or less sales, they did not make this listing and are not counted here. These companies employ 10,386 and probably do a combined annual sales volume of around $2.4 billion.

The statewide chains. These electrical distributors with five or more branches confine their operations within one state. There were 39 of them in this year's ranking, down from 44 last time.

The two-state chains. These companies have crossed state borders with their five or more houses, but they haven't spread far enough that they could be called regional chains. There are 32 of them on the list this year, the same as last year.

Multi-branch distributors. These firms again dominate the 250 Biggest listing in numbers, although their ranks have grown smaller over the years as more and more of them move on to chain status. This time there are 94 such companies, having two to four branches and serving a more or less local market area.

Single-house firms. Fewer of this type of electrical distributor seem to appear among the largest electrical wholesalers in the U.S. every time we do a listing, so it was a surprise to find more of them this year. Single-house distributors on the 1992 250 Biggest list number 23, up from 19 last time. The largest among them is Taylor Electric Supply Inc., Portland, Ore.

Specialty distributor chains. These companies, such as wire and cable distributors and lighting specialists, tend to have multiple locations, but only one per state, a somewhat different pattern from traditional full-line electrical wholesalers. Thirteen such companies are on the list this year; specialists not operating as chains can be found on the list, too.

The firms in this listing are ranked by dollar volume insofar as possible; previously we had ranked by number of employees because sales dollars, although a more credible means by which to size firms, is not always obtainable from each company. That is still the case, but we found sufficient distributors providing the information, especially among the larger firms on the list, that we were able to rank firms by sales volume. Last year, once we hit the $30 million sales mark, we continued the ranking by employee count. For this list, we attempted to place firms on the list by estimated sales volume, which entails considerable guesswork. It turned out that we had no firm cutoff in either sales or employees this time, and we expect that other small companies out there may rate a spot on the list based on their sales volume. Where possible, firms that reported their sales were put on the list ahead of firms that may have had more employees but chose not to reveal their dollar volumes. To place a firm in its slot on the list, we estimated either the number of employees or the dollar volume if the distributor did not provide them.

To qualify a company for a spot in the ranking, only its electrical wholesale-related sales and employees count. But we do include specialized electrical wholesalers on the 250 Biggest list in recognition of their ever more visible role in the electrical wholesaling industry.□

THE 250 BIGGEST ELECTRICAL DISTRIBUTORS

RANK	COMPANY (Parent)	HEADQUARTERS	1991 SALES	ELECTRICAL EMPLOYEES	LOCATIONS	SQ FT (000)	PRESIDENT OR CEO
1	**Graybar Electric Co., Inc.**	St. Louis, MO	1,735,000,000	4,729	205	NA	E.A. McGrath
2	**Consolidated Electrical Distributors, Inc.**	Westlake Village, CA	NA	NA	338	NA	T. Monis
3	**Westinghouse Electric Supply Co.** (Westinghouse Electric Corp.)	Pittsburgh, PA	NA	NA	260e	NA	E.A.J. Peretti
4	**GE Supply Co.** (GE Co.)	Bridgeport, CT	1,113,000,000	2,000	120	NA	D. Woods
5	**W.W. Grainger, Inc.**	Chicago, IL	NA	NA/8,700e	325	NA	D.W. Grainger
6	**All-Phase Electric Supply Co.**	Benton Harbor, MI	450,000,000	1,800	107	1,903	R.F. Kinney
7	**Summers Electric Group** (BTR, Inc.)	Dallas, TX	400,000,000	1,150	83	NA	W.K. Renwick
8	**Consolidated Electric Supply, Inc.** (Willcox & Gibbs, Inc.)	Miami, FL	348,000,000	1,140	62	NA	W.E. Campbell
9	**Crescent Electric Supply Co., Inc.**	East Dubuque, IL	NA	900e	97	NA	J. Schmid
10	**EESCO, Inc.**	Chicago, IL	260,000,000	750	36	730	S.C. Weiss
11	**Hughes Supply, Inc.**	Orlando, FL	250,000,000	900	115	NA	D.H. Hughes
12	**Anixter Bros., Inc. (Energy Group)** (Itel Corp.)	Skokie, IL	NA	250	45	750	J.G. Miller
13	**Houston Wire & Cable Co.** (HWC Distribution Corp.)	Houston, TX	175,000,000	275	9	400	J.K. Jennings, Jr.
14	**Mayer Electric Supply Co., Inc.**	Birmingham, AL	164,470,000	510	28	430	C.A. Collat
15	**Branch Group Inc. and affiliates**	Upper Marlboro, MD	160,000,000	540	32	675	C.M. Steiner
16	**Scott Electric Co.**	Greensburg, PA	NA	491	6	345	S. Scott
17	**Cameron & Barkley Co., Electrical Division**	Charleston, SC	156,177,000	477	30	550	J.R. Warren
18	**Stuart C. Irby Co.**	Jackson, MS	150,000,000	500	21	597	S.M. Irby
19	**Dealers Electrical Supply Co.**	Waco, TX	NA	468	34	549	M.W. Bracey
20	**Platt Electric Supply, Inc.**	Beaverton, OR	130,000,000	691	58	590	H.J. Platt
21	**Border States Industries, Inc.**	Fargo, ND	127,000,000	350	14	417	R. Gill/P. Madson
22	**Kirby Risk Supply Co., Inc.**	Lafayette, IN	NA	391	19	303	J.K. Risk III
23	**State Electric Supply Co., Inc.**	Huntington, WV	NA	390	17	440	A. Weisberg
24	**North Coast Electric Co.**	Bellevue, WA	NA	360	22	NA	P.E. Perko
25	**McNaughton-McKay Electric Co.**	Madison Heights, MI	NA	330	9	312	W.H. Bull
26	**Warren Electric Co.**	Houston, TX	115,000,000	320	8	NA	R.V. Williams
27	**Wholesale Electric Supply Co. of Houston, Inc.**	Houston, TX	106,000,000	210	4	220	C.G. Rutland
28	**Southern Electric Supply Co., Inc.** (International Technical Distributors)	Meridian, MS	100,000,000+	347	32	400	R.M. Merson
29	**Tristate Electrical Supply Co., Inc.**	Hagerstown, MD	88,970,000	308	24	NA	J.M. Waltersdorf

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RANK	COMPANY (Parent)	HEADQUARTERS	1991 SALES	ELECTRICAL EMPLOYEES	LOCATIONS	SQ FT (000)	PRESIDENT OR CEO
30	**Watson Electric Supply Co.**	Dallas, TX	NA	270	20	295	M. Watson
31	**Turtle & Hughes, Inc.**	Linden, NJ	83,000,000	180	4	164	S.T. Millard
32	**Independent Electric Supply, Inc.**	San Carlos, CA	83,000,000	140	7	140	R.F. Hurd
33	**Brown Wholesale Electric Co. (Excel)**	Sun Valley, CA	82,000,000	220	8	130	R. Brown
34	**Tvesco, Inc.**	Memphis, TN	76,000,000	189	12	200	J.D. Liles
35	**Kendall Electric, Inc.**	Battle Creek, MI	75,487,900	232	10	127	A.R. Johnson
36	**Steiner Electric Company**	Elk Grove Village, IL	74,000,000	236	4	136	H.M. Kerman
37	**Stusser Electric Co.**	Seattle, WA	71,000,000	225	11	NA	L.E. Stusser
38	**Maurice Electric Supply Co., Inc.**	Washington, DC	60,629,000	145	4	NA	B.S. Green
39	**Kriz-Davis Co.**	Grand Island, NE	60,000,000	160	11	210	M.H. Gosda
40	**Bryant Supply Co., Inc.**	Gastonia, NC	58,417,054	250	11	NA	H.M. Bryant, Sr.
41	**Ace Electric Supply Co.**	Jacksonville, FL	55,000,000	215	20	NA	B.W. Covington
42	**Sacks Electrical Supply Co.**	Akron, OH	55,000,000	175	3	NA	J.D. Altshuler
	(UIS, Inc.)						
43	**Madison Electric Co.**	Detroit, MI	NA	205	10	170	J. Schneider
44	**Viking Electric Supply, Inc.**	St. Paul, MN	NA	200	9	NA	J. Schacker
45	**Maddux Supply Co.**	Greensboro, NC	NA	200e	10	100	J.B. Mathis
46	**Rumsey Electric Co.**	Philadelphia, PA	54,000,000	136	5	120	W.J. DiBui
47	**Walters Wholesale Electric Co.**	Long Beach, CA	53,004,357	185	10	108	J.L. Walter
48	**Moore Electric Supply Inc.**	Charlotte, NC	51,122,267	132	5	94	J.V. Moore
49	**Mack Electric Supply Co., Inc.**	Dothan, AL	50,660,000	175	6	180	D. F. McMullan
50	**Seattle Lighting & Fixture Co.**	Seattle, WA	50,000,000+	257	14	NA	P. Alexander
51	**American Electric Co.**	St. Joseph, MO	50,000,000	194	20	350	L. DeLeon
	(Sun Distributors, Inc.)						
52	**Bergenfield Lighting & Electrical Supplies**	Bergenfield, NJ	50,000,000	175	5	100	A. Vairo
53	**Northland Electric Supply Co.**	Minneapolis, MN	49,750,000	148	6	188	J.M. Vilett
54	**Lappin Electric Co.**	Milwaukee, WI	49,500,000	174	10	270	R.T. Lappin
55	**Electrical Equipment Co.**	Raleigh, NC	48,234,267	206	9	131	R.L. Hedgepeth
56	**Eck Supply Co.**	Richmond, VA	48,000,000	185	12	NA	L.W. Burnley, Jr.
	(Eck Enterprises, Inc.)						
57	**Noland Co.**	Newport News, VA	47,500,000	211e	34	NA	L.U. Noland III
58	**Stanion Wholesale Electric Co., Inc.**	Pratt, KS	47,000,000+	198	16	NA	W. Keller
59	**Billows Electric Supply Co.**	Philadelphia, PA	46,000,000	165	4	99	J. Billow
60	**Springfield Electric Supply Co.**	Springfield, IL	46,000,000	163	7	151	W.R. Schnirring, Jr.
61	**Avon Electrical Supplies, Inc.**	Hauppague, NY	45,800,000	76	5	50	L. + K. Moskowitz
62	**Evergreen Oak Electric Supply & Sales Co., Inc.**	Crestwood, IL	45,000,000	240	7	175	R.B. Caesar
63	**Eoff Electric Co.**	Salem, OR	45,000,000	154	5	175	J.I. Eoff
64	**Interstate Electric Supply Co., Inc.**	Chantilly, VA	44,800,000	190	13	198	F.J. Carr
65	**Stoneway Electric Supply**	Seattle, WA	44,000,000	140	10	140	E.E. Ralph
66	**The F.D. Lawrence Electric Co.**	Cincinnati, OH	44,000,000	91	4	84	P.F. Bodde
67	**Nunn Electric Supply Corp.**	Amarillo, TX	43,820,758	197	14	254	C.D. Hare
68	**Reily Electrical Supply, Inc.**	New Orleans, LA	NA	187	6	NA	T.S. Reily
69	**United Electric Supply Co., Inc.**	New Castle, DE	NA	180	7	150	N.R. Gianoulis
70	**City Electric Supply Co.**	Mt. Dora, FL	NA	171	24	NA	NA
71	**Fromm Electric Supply Corp.**	Piscataway, NJ	NA	160	4	109	D. Berman
72	**Electric Supply Co. of Wilson, Raleigh, Durham, Inc.**	Raleigh, NC	NA	157	11	NA	K.D. Kennedy, Jr.
73	**Dominion Electric Supply Co., Inc.**	Arlington, VA	NA	154	5	129	R.S. Sharlin
74	**Standard Electric Supply Co., Inc.**	Wilmington, MA	43,000,000	150	5	112	S.G. Brand
75	**Temple, Inc.**	Dallas, TX	42,500,000e	60	6	130	R.J. Morrison
76	**Summit Electric Supply Co., Inc.**	Albuquerque, NM	42,000,000	150	6	125	V.R. Jury, Jr.
77	**Dardanella Electric Corp.**	Arcadia, CA	41,697,000	102	8	124	W.W. Hoban
78	**Richards Electric Supply Co., Inc.**	Cincinnati, OH	40,000,000	120	5	110	I.S. Misrach
79	**Debenham Electric Supply Co., Inc.**	Anchorage, AK	38,000,000	123	9	125	R.G. Debenham
80	**Fitzpatrick Electric Supply Co., Inc.**	Muskegon, MI	36,175,000	150	7	164	L.P. Carlson
81	**Taylor Electric Supply, Inc.**	Portland, OR	36,000,000+	123	1	89	W.J. Klein
82	**Control Design Supply Inc.**	Minneapolis, MN	NA	125e	26e	NA	L.D. Dinkel
83	**Gamarel Electric Supply Co., Inc.**	Irvington, NJ	35,000,000	175	2	200	B. Gamarel
84	**Wehle Electric Co., Inc.**	Buffalo, NY	35,000,000	132	4	190	D.L. Bausch
	(Westburne Supply Inc.)						
85	**Uhr Electric Supply Co., Inc.**	Cherry Hill, NJ	35,000,000	100	4	80	E. Uhr

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86	**Fife Electric Company**	Novi, MI	35,000,000	75	1	70	B. Smith
87	**Rosen's Electrical Equipment Co.**	Pico Rivera, CA	NA	143	1	120	W. Rosen
88	**Friedman Electric Group**	Exeter, PA	NA	142	7	NA	S. + R. Friedman
89	**Electric Supply Co. of Asheville, Inc.**	Asheville, NC	NA	140	17	450	E.M. Winner
90	**Ralph Pill Electric Supply Co.**	Boston, MA	NA	140	15	180	A.E. Pill
91	**Revere Electric Supply Co.**	Chicago, IL	NA	140	5	NA	T.A. Eiseman
92	**Pacific Electrical Supply, Inc.**	San Leandro, CA	NA	135	6	107	A.P. Russello III
93	**Norcal Electric Supply, Inc.**	Redding, CA	NA	130	12	109	S.F. Schoradt
94	**Ryall Electric Supply Co.**	Denver, CO	NA	130	5	159	G.A. Wilson
95	**Becker Electric Supply** (John A. Becker Co.)	Dayton, OH	34,200,000	127	3	122	T.E. Becker
96	**Keathley-Patterson Electric Co.** (Sun Distributors, Inc.)	N. Little Rock, AR	34,000,000	128	13	NA	R.J. Wilson
97	**Cooper Electric Supply Co.**	Middletown, NJ	34,000,000	118	4	64	R.A. Cooper
98	**Penn Electric Supply Group**	Philadelphia, PA	33,000,000	142	4	185	S. Cooperstein
99	**Northern Wire and Cable, Inc.**	Troy, MI	NA	165 e	5 e	NA	G.M. Nast
100	**Electrical Distributors, Inc.**	Atlanta, GA	NA	96	1	60	D.C. Martin
101	**Tri-Electric Supply, Inc.**	San Marcos, CA	32,169,000	65	3	54	T.C. Black
102	**Dauphin Electric Supply Co.** (Dauphin Associates, Inc.)	Harrisburg, PA	32,000,000	125	4	100	T. Burkholder
103	**Power/Mation Div.**	St. Paul, MN	32,000,000	94	6	55	C. Reed
104	**The Hite Co.**	Altoona, PA	31,906,637	168	12	220	R.L. Hite
105	**Shealy Electrical Wholesalers, Inc.**	Greenville, SC	31,430,344	110	4	NA	J.S. DeLoache
106	**French Gerleman Electric Co.**	Maryland Heights, MO	31,000,000	89	3	42	W.B. French
107	**Professional Electric Products Co. (PEPCO)**	Eastlake, OH	31,000,000	68	2	80	J.H. Borley, Jr.
108	**Elliott Electric Supply, Inc.**	Nacogdoches, TX	30,256,000	147	17	145	W. Elliott
109	**King Wire & Cable Corp.**	Jamaica, NY	30,000,000 +	110	5	350	R. Dorfman
110	**J.H. Larson Electrical Co.**	Golden Valley, MN	30,000,000	111	6	120	C.E. Pahl
111	**Kennedy Electrical Supply Corp.**	Jamaica, NY	30,000,000	95	2	60	M. Berken
112	**Capital Lighting & Supply, Inc.**	Alexandria, VA	30,000,000	72	2	35	L.H. Duckett
113	**United Electric Supply Co.**	St. Louis, MO	NA	121	6	104	J. Brown
114	**McJunkin Corp.**	Charleston, WV	NA	115 e	10	190	H.B. Wehrle III
115	**Braid Electric Company**	Nashville, TN	NA	115	8	150	B.S. Gambill, Jr.
116	**Electrical Wholesalers, Inc.**	Hartford, CT	NA	115	6	100	H. Namerow
117	**Valley Electric Co. of Stockton**	Stockton, CA	NA	115	3	130	H.L. Dempsey, Jr.
118	**Butler Supply, Inc.**	Fenton, MO	NA	114	14	195	R.E. Butler
119	**Maynard's Electric Supply, Inc.**	Rochester, NY	NA	110	3	121	B. Hellman
120	**Villa Lighting Supply Co., Inc.**	St. Louis, MO	NA	110	3	110	J.A. Villa
121	**Wholesale Electrical Supply Corp.**	Vestal, NY	29,100,000	68	3	88	G.J. La Haie
122	**Barber/Northern Electric Supply, Inc.**	St. Paul, MN	28,453,000	82	3	96	E.L. Barber
123	**ESSCO Wholesale Electric**	Gilbert, AZ	28,000,000	93	10	100	T.D. Tapia
124	**Electrical Insulation Suppliers, Inc.** (EIS Management Corp.)	Atlanta, GA	27,500,000	NA/450 e	44	NA	S. Kendall
125	**Kulwin Electric Supply Co., Inc.**	Indianapolis, IN	26,809,000	99	6	105	H. Kulwin
126	**Electrical Suppliers, Inc.**	Norfolk, VA	26,206,374	97	4	87	W.W. Old
127	**Boggis-Johnson Electric Co.**	Milwaukee, WI	26,100,000	56	1	93	J.E. Johnson
128	**Standard Electric Co.**	Bangor, ME	NA	104	8	114	R. Stone
129	**Eagle Electric Supply Co., Inc.**	Boston, MA	NA	102	2	52	S. Kaplan
130	**Commerce Electric Supply Co.**	Linthicum, MD	NA	101	11	160	M.B. Lessans
131	**Hunzicker Brothers, Inc.**	Oklahoma City, OK	NA	101	6	110	W.T. Hunzicker
132	**The Van Meter Co.**	Cedar Rapids, IA	NA	101	6	65	J.M. Hoke
133	**Standard Electric Company**	Saginaw, MI	NA	99	11	137	L.N. Weber
134	**Grand Light & Supply Co., Inc.**	New Haven, CT	25,000,000 +	85	4	75	S.L. Stockman
135	**Codale Electric Supply, Inc.**	Salt Lake City, UT	25,000,000 +	59	2	37	D.P. Holt
136	**Cardello Electric Supply Co.**	Pittsburgh, PA	25,000,000	110	9	200	N.R. Cardello
137	**The Loeb Electric Co.**	Columbus, OH	25,000,000	78	4	NA	C.A. Loeb
138	**Amfac Distribution Hawaii, Inc.**	Honolulu, HI	25,000,000	69	4	NA	J.G. Ashmore
139	**Dakota Electric Supply Co.**	Fargo, ND	25,000,000	65	2	61	B. Herr

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140	**GNWC Wire Cable & Network Products, Inc.**	Downers Grove, IL	25,000,000	56	3	90	J. Dellarippa
141	**West Chester Electric & Electronics, Inc.**	West Chester, PA	24,704,512	84 e	2	60	L. Traines
142	**Kiemle-Hankins Supply Co.**	Toledo, OH	NA	90	4	NA	A.S. Martindale
143	**Active Electrical Supply Co.**	Chicago, IL	NA	90	1	45	H.C. Fox
144	**Fromm Electric Supply Corp. of Reading**	Reading, PA	NA	88	3	NA	B. Fromm
145	**Medler Electric Co.**	Alma, MI	NA	87	9	105	W. Leuth
146	**Hunt Electric Supply Co.**	Burlington, NC	NA	86	9	139	S. Hunt
147	**Teche Electric Supply, Inc.**	Lafayette, LA	NA	86	9	115	M.G. Hays
148	**Hartford Electric Supply Co.**	West Hartford, CT	NA	84	3	61	B.P. DePasquale
149	**Werner Electric Supply Co.**	Neenah, WI	23,810,000	59	3	NA	L.T. MacDonald
150	**Harry Cooper Supply Co.** (C.B. Management Co., Inc.)	Springfield, MO	23,800,000	95 e	2	NA	S.R. Reagan
151	**Tecot Electric Supply Co., Inc.**	New Castle, DE	23,500,000	93	4	80	S. Tecot
152	**Dixie Electric Supply Corp.**	Richmond, VA	23,454,119	84	3	65	J.F. Alexander
153	**Capitol Light & Supply Co.**	Hartford, CT	23,326,000	60	4	105	M.B. Cartin
154	**Denney Electric Supply**	Ambler, PA	23,300,000	104	9	128	B.H. Denney
155	**Fischer-Flack, Inc.**	Saginaw, MI	23,000,000	63	3	72	R. Tiderington III
156	**Schaedler Bros., Inc.**	Harrisburg, PA	NA	83	3	80	J.D. Schaedler
157	**Splane Electric Supply Co.**	Van Buren Township, MI	NA	82	6	160	A. Swartzenberg
158	**Wabash Electric Supply, Inc.**	Wabash, IN	NA	82	6	50	J.W. Forrester
159	**Royalite Co.**	Flint, MI	NA	82	4	84	G.B. Gottlieb
160	**Industrial Electric Supply Co.**	Birmingham, AL	NA	81	5	37	W.E. Mason
161	**Plainsco, Inc.**	Aberdeen, SD	NA	80 e	8	NA	D. Logan
162	**Benfield Electric Supply Co., Inc.**	White Plains, NY	22,500,000	78	3	60	R.C. Kohli
163	**Shepherd Electric Co., Inc.**	Baltimore, MD	22,432,000	63	1	61	C.C. Vogel III
164	**San Diego Wholesale Electric**	San Diego, CA	22,000,000 +	53	4	60	R.S. Zamarripa, Jr.
165	**Matthews Electric Supply Co., Inc.**	Birmingham, AL	22,000,000	85	5	NA	W.H. Cole, Jr.
166	**Aucoin & Miller Electric Supply Co.**	Houston, TX	22,000,000	70	3	64	B.T. Miller
167	**York Electrical Supply Co. (YESCO)**	York, PA	21,768,190	82	2	60	J.G. Livingston
168	**Square Electric Supply Co.**	Parsippany, NJ	21,550,000	52	2	38	H.W. Cohen
169	**Philips & Co.** (Sun Distributors, Inc.)	Columbia, MO	21,235,000	94	7	NA	B. Cornelius
170	**Wolff Bros. Supply, Inc.**	Medina, OH	21,000,000	115	4	120	H.E. Wolff
171	**Electric Fixture & Supply Co.**	Omaha, NE	21,000,000	86	4	70	L.L. Siedlyk
172	**Buckles-Smith Electric Co.**	San Jose, CA	21,000,000	61	3	NA	R.J. Polito
173	**Electric Supply & Equipment Co., Inc.**	Greensboro, NC	20,931,205	67	3	NA	D.G. Smith
174	**Georgia Lighting Supply Co., Inc.**	Atlanta, GA	20,700,000	148	4	113	H.L. Gilham, Jr.
175	**Requa Electrical Supply**	Rochester, NY	20,568,781	76	2	24	J.R. Wilson
176	**Tacoma Electric Supply, Inc.**	Tacoma, WA	20,510,000	65	3	70	R.R. Mauerman
177	**Stokes Electric Co.**	Knoxville, TN	20,000,000 +	84	3	70	R.E. Lay, Sr.
178	**Hampden Zimmerman Electric Supply**	Springfield, MA	20,000,000 +	76	3	90	T. Sanborn
179	**Reece Supply Co.**	Irving, TX	20,000,000	77	4	90	R.E. Reece
180	**Brook Electrical Supply Co.**	Chicago, IL	20,000,000	70	1	70	J. Rosenstein
181	**Basic Distribution Corp.**	Columbus, OH	NA	79	7	91	A.W. Kerr
182	**Advance Electric Supply Co., Inc.**	Flint, MI	NA	79	1	94	J.A. Smock
183	**Cadillac Electric** (Premier Industrial Corp.)	Oak Park, MI	NA	78 e	3 e	NA	J. Green
184	**Peerless Electric Supply Co.**	Indianapolis, IN	NA	77	4	85	B.A. Butz
185	**Michigan Brass & Electric Co.**	Lansing, MI	NA	76	2	37	R. Greenwood
186	**Shepherd Electric Supply Co., Inc.**	Goldsboro, NC	19,909,382	88	6	64	D.B. Shepherd
187	**McDonald Distributors of Florida, Inc.**	Ft. Lauderdale, FL	19,900,000	71	5	100 *	R.W. Long
188	**County Wholesale Electric Co., Inc.**	Orange, CA	19,000,000	62	2	40	R.S. Roberts
189	**Jarvis Electric Supply Co., Inc.**	Los Angeles, CA	18,900,000	92	1	42	L.W. Jarvis
190	**Associated of Los Angeles**	Los Angeles, CA	18,625,000	75	2	42	C.D. Russell, Jr.
191	**The H. Poll Electric Co.**	Toledo, OH	18,000,000	59	4	60	R.W. Poll
192	**Electrical Wholesale Supply Co., Inc.**	Idaho Falls, ID	18,000,000	51	6	49	R. Norman
193	**Coleman Electrical Supply Co., Inc.**	Brooklyn, NY	NA	96	6	60	S. + W. Coleman
194	**Missouri Valley Electric Co.**	Kansas City, MO	17,829,000	70	1	NA	C.R. Hopkins
195	**B & K Electric Wholesale**	City of Industry, CA	17,747,000	83	4	77	K. Kindrick
196	**I.G. Federal Electrical Supply Corp.**	Long Island City, NY	17,600,000	45	1	33	S.J. Friedman
197	**Triangle Electric Supply Co.**	El Paso, TX	17,500,000	47	1	55	R. Acton

RANK	COMPANY (Parent)	HEADQUARTERS	1991 SALES	ELECTRICAL EMPLOYEES	LOCATIONS	SQ FT (000)	PRESIDENT OR CEO
198	Rockingham Electrical Supply Co., Inc.	Newington, NH	NA	76	5	107	J.E. Pender
199	The Reynolds Co.	Dallas, TX	NA	75	3	NA	D. Reynolds
200	Major Electric & Supply, Inc.	Pawtucket, RI	NA	73	1	41	D.E. Leven
201	Womack Electric Supply Co., Inc.	Burlington, NC	NA	72	11	NA	R.T. Womack
202	Coast Electric Co.	San Diego, CA	NA	71	3	70	S.J. Wilkins
203	Roden Electrical Supply Co.	Knoxville, TN	NA	70	7	90	S.C. McCamy
204	The H. Leff Electric Co.	Cleveland, OH	NA	70	4	85	S.L. Leff
205	Electrical Wholesale Supply Co., Inc.	Salt Lake City, UT	NA	70	4	75	R.W. Gardner
206	Raymond de Steiger, Inc.	Sterling Heights, MI	NA	70	3	60	R. de Steiger
207	Wolberg Electrical Supply Co., Inc.	Albany, NY	NA	70	2	59	M. Bindell
208	Franklin Electric Co.	Philadelphia, PA	NA	70	1	95	W.T. Walker III
209	Allied Electric Supply Co.	Pittsburgh, PA	NA	70 e	12 e	NA	E. Berman
210	Seamans Supply Co., Inc.	Manchester, NH	NA	70 e	4 e	NA	D.G. March
211	Wholesale Electric Supply Co., Inc.	Texarkana, TX	NA	68	7	98	A. McCulloch
212	Midwest Electric Supply Co.	Owensboro, KY	NA	68	3	30	W.A. Johnson
213	Memphis Lamp Co.	Memphis, TN	NA	67	7	70	D.M. Marrs
214	ANESCO	Kingston, PA	NA	67	1	40	G.S. Fierman
215	Electrical Distributors Co.	San Jose, CA	17,000,000	56	2	54	C. Lehmann
216	Colonial Electric Supply Co.	King of Prussia, PA	17,000,000	42	1	20	J.W. Bellwoar
217	Schwing Electrical Supply Corp.	Farmingdale, NY	16,800,000	51	3	51	C.W. Schwing
218	K & M Electric Supply, Inc.	Riviera Beach, FL	16,700,000	51	5	49	W.K. Mooney
219	Holt Electrical Distribution Corp.	New York, NY	16,500,000	95	1	100	P.J. Hillstrom
220	Peninsular Electric Distributors, Inc.	West Palm Beach, FL	16,442,151	52	1	21	P.A. Larmoyeux, Sr.
221	Maltby Electric Supply Co., Inc.	San Francisco, CA	16,200,000	53	3	47	R.H. Westerberg
222	Richard Electric Supply Co.	Miami, FL	16,200,000	83	3	NA	J. Fernandez, Jr.
223	Voss Electric Supply Co.	Lincoln, NE	16,000,000	86	8	50	M.H. Voss
224	RAM Motors & Controls (Ram Industries, Inc.)	Reading, PA	16,000,000	53	1	30	D.E. Walton
225	Minnesota Electric Supply Co.	Willmar, MN	NA	66	5	97	H.W. Linder
226	Electrical Engineering & Equipment Co.	Des Moines, IA	NA	66	1	80	J.J. Myers
227	Granite City Electric Supply Co.	Quincy, MA	NA	65	4	79	P.P. Godwin
228	Griffith Electric Supply Co., Inc.	Trenton, NJ	NA	65	1	70	M.A. Griffith
229	Western Extralite Co.	Kansas City, MO	NA	65 e	6 e	NA	J. Isenberg
230	Kiefer Electrical Supply Co.	Peoria, IL	NA	65 e	4 e	NA	W.A. Kiefer
231	Interstate Electrical Supply Co.						
232	Franklin Electric Co.	Atlantic City, NJ	15,700,000	74	8	70	E.R. Lowenstein
233	Chemco Electric Supply, Inc.	Tampa, FL	15,407,441	48	3	52	J. Zink
234	West Virginia Electric Supply Co.	Huntington, WV	15,330,000	85	6	72	J. Colker
235	Romac Supply Co.	City of Commerce, CA	15,000,000	30	4	130	D.B. Rosenfield
236	Alameda Electrical Distributors, Inc.	Hayward, CA	14,600,000	56	2	48	R. LaRue
237	Mid-West Wholesale Lighting Corp.	Los Angeles, CA	14,100,000	53	1	36	M. Frandzel
238	St. Louis-Metro Electric Supply, Inc.	St. Louis, MO	14,000,000	102	8	79	J.O. Frisella
239	Shanor Electric Supply, Inc.	Buffalo, NY	14,000,000	82	3	74	J.R. Shanor, Jr.
240	American Light, Inc.	Austin, TX	14,000,000	77	6	NA	W.D. Graham
241	Michigan Electric Supply	Flint, MI	NA	62	4	110	D. Marlinga
242	Empire Electric Supply Co.	Rochester, NY	NA	62	3	80	S.B. Cutler
243	M & M Lighting, Inc.	Houston, TX	NA	61	2	53	J. Margolin
244	Brock-McVey Supply Co.	Lexington, KY	NA	60 e	5 e	NA	J. McDonald III
245	National Electric Supply Co.	Albuquerque, NM	NA	60 e	3 e	NA	B.W. Lawrence
246	Holmes Distributors, Inc.	Portland, ME	NA	60 e	3	NA	B. Andrews
247	Gross Electric, Inc.	Toledo, OH	13,205,300	65	5	75	R. Gross
248	K.J. Electric Corp.	Syracuse, NY	13,000,000	85	4	130	K.E. Jacobs
249	Tri State Supply Co., Inc.	Washington, PA	13,000,000	55	4	36	J.D. Van Zandt
250	The Starbuck Sprague Co.	Waterbury, CT	NA	59	2	52	H.W. Schultze

e—estimated either by the company or by the editors of ELECTRICAL WHOLESALING

ALPHABETICAL GUIDE TO THE 250 BIGGEST

RANK	COMPANY
41	Ace Electric Supply Co.
143	Active Electrical Supply Co.
182	Advance Electric Supply Co., Inc.
236	Alameda Electrical Distributors, Inc.
209	Allied Electric Supply Co.
6	All-Phase Electric Supply Co.
51	American Electric Co.
240	American Light, Inc.
138	Amfac Distribution Hawaii, Inc.
214	ANESCO
12	Anixter Bros., Inc. (Energy Group)
190	Associated of Los Angeles
166	Aucoin & Miller Electric Supply Co.
61	Avon Electrical Supplies, Inc.
195	B & K Electric Wholesale
122	Barber/Northern Electric Supply, Inc.
181	Basic Distribution Corp.
95	Becker Electric Supply
162	Benfield Electric Supply Co., Inc.
52	Bergenfield Lighting & Electrical Supplies
59	Billows Electric Supply Co.
127	Boggis-Johnson Electric Co.
21	Border States Industries, Inc.
115	Braid Electric Company
15	Branch Group Inc. and affiliates
244	Brock-McVey Supply Co.
180	Brook Electrical Supply Co.
33	Brown Wholesale Electric Co. (Excel)
40	Bryant Supply Co., Inc.
172	Buckles-Smith Electric Co.
118	Butler Supply, Inc.
183	Cadillac Electric
17	Cameron & Barkley Co., Electrical Division
112	Capital Lighting & Supply, Inc.
153	Capitol Light & Supply Co.
136	Cardello Electric Supply Co.
233	Chemco Electric Supply, Inc.
70	City Electric Supply Co.
202	Coast Electric Co.
135	Codale Electric Supply, Inc.
193	Coleman Electrical Supply Co., Inc.
216	Colonial Electric Supply Co.
130	Commerce Electric Supply Co.
8	Consolidated Electric Supply, Inc.
2	Consolidated Electrical Distributors, Inc.
82	Control Design Supply Inc.
97	Cooper Electric Supply Co.
188	County Wholesale Electric Co., Inc.
9	Crescent Electric Supply Co., Inc.
139	Dakota Electric Supply Co.

RANK	COMPANY
77	Dardanella Electric Corp.
102	Dauphin Electric Supply Co.
19	Dealers Electrical Supply Co.
79	Debenham Electric Supply Co., Inc.
154	Denney Electric Supply
152	Dixie Electric Supply Corp.
73	Dominion Electric Supply Co., Inc.
129	Eagle Electric Supply Co., Inc.
56	Eck Supply Co.
10	EESCO, Inc.
171	Electric Fixture & Supply Co.
89	Electric Supply Co. of Asheville, Inc.
72	Electric Supply Co. of Wilson, Raleigh, Durham, Inc.
173	Electric Supply & Equipment Co., Inc.
100	Electrical Distributors, Inc.
215	Electrical Distributors Co.
226	Electrical Engineering & Equipment Co.
55	Electrical Equipment Co.
124	Electrical Insulation Suppliers, Inc.
126	Electrical Suppliers, Inc.
205	Electrical Wholesale Supply Co., Inc.
192	Electrical Wholesale Supply Co., Inc.
116	Electrical Wholesalers, Inc.
108	Elliott Electric Supply, Inc.
242	Empire Electric Supply Co.
63	Eoff Electric Co.
123	ESSCO Wholesale Electric
62	Evergreen Oak Electric Supply & Sales Co., Inc.
86	Fife Electric Company
155	Fischer-Flack, Inc.
80	Fitzpatrick Electric Supply Co., Inc.
232	Franklin Electric Co. (Atlantic City, N.J.)
208	Franklin Electric Co. (Philadelphia, Pa.)
106	French Gerleman Electric Co.
88	Friedman Electric Group
71	Fromm Electric Supply Corp.
144	Fromm Electric Supply Corp. of Reading
83	Gamarel Electric Supply Co., Inc.
4	GE Supply Co.
174	Georgia Lighting Supply Co., Inc.
140	GNWC Wire Cable & Network Products, Inc.
134	Grand Light & Supply Co., Inc.
227	Granite City Electric Supply Co.
1	Graybar Electric Co., Inc.
228	Griffith Electric Supply Co., Inc.
247	Gross Electric, Inc.
178	Hampden Zimmerman Electric Supply
150	Harry Cooper Supply Co.
148	Hartford Electric Supply Co.
246	Holmes Distributors, Inc.

RANK	COMPANY
219	Holt Electrical Distribution Corp.
13	Houston Wire & Cable Co.
11	Hughes Supply, Inc.
146	Hunt Electric Supply Co.
131	Hunzicker Brothers, Inc.
32	Independent Electric Supply, Inc.
160	Industrial Electric Supply Co.
64	Interstate Electric Supply Co., Inc.
231	Interstate Electrical Supply Co.
196	I.G. Federal Electrical Supply Corp.
189	Jarvis Electric Supply Co., Inc.
110	J.H. Larson Electrical Co.
218	K & M Electric Supply, Inc.
96	Keathley-Patterson Electric Co.
35	Kendall Electric, Inc.
111	Kennedy Electrical Supply Corp.
230	Kiefer Electrical Supply Co.
142	Kiemle-Hankins Supply Co.
109	King Wire & Cable Corp.
22	Kirby Risk Supply Co., Inc.
39	Kriz-Davis Co.
125	Kulwin Electric Supply Co., Inc.
248	K.J. Electric Corp.
54	Lapp'in Electric Co.
243	M & M Lighting, Inc.
49	Mack Electric Supply Co., Inc.
45	Maddux Supply Co.
43	Madison Electric Co.
200	Major Electric & Supply, Inc.
221	Maltby Electric Supply Co., Inc.
165	Matthews Electric Supply Co., Inc.
38	Maurice Electric Supply Co., Inc.
14	Mayer Electric Supply Co., Inc.
119	Maynard's Electric Supply, Inc.
187	McDonald Distributors of Florida, Inc.
114	McJunkin Corp.
25	McNaughton-McKay Electric Co.
145	Medler Electric Co.
213	Memphis Lamp Co.
185	Michigan Brass & Electric Co.
241	Michigan Electric Supply
212	Midwest Electric Supply Co.
237	Mid-West Wholesale Lighting Corp.
225	Minnesota Electric Supply Co.
194	Missouri Valley Electric Co.
48	Moore Electric Supply, Inc.
245	National Electric Supply Co.
57	Noland Co.
93	Norcal Electric Supply, Inc.
24	North Coast Electric Co.
99	Northern Wire and Cable, Inc.
53	Northland Electric Supply Co.
67	Nunn Electric Supply Corp.
92	Pacific Electrical Supply, Inc.
184	Peerless Electric Supply Co.
220	Peninsular Electric Distributors, Inc.
98	Penn Electric Supply Group
169	Philips & Co.
161	Plainsco, Inc.
20	Platt Electric Supply, Inc.
103	Power/Mation Div.
107	Professional Electric Products Co. (PEPCO)
90	Ralph Pill Electric Supply Co.
224	RAM Motors & Controls
206	Raymond de Steiger, Inc.
179	Reece Supply Co.
68	Reily Electrical Supply, Inc.
175	Requa Electrical Supply
91	Revere Electric Supply Co.
222	Richard Electric Supply Co.
78	Richards Electric Supply Co., Inc.
198	Rockingham Electrical Supply Co., Inc.
203	Roden Electrical Supply Co.
235	Romac Supply Co.
87	Rosen's Electrical Equipment Co.

RANK	COMPANY
159	Royalite Co.
46	Rumsey Electric Co.
94	Ryall Electric Supply Co.
42	Sacks Electrical Supply Co.
164	San Diego Wholesale Electric
156	Schaedler Bros., Inc.
217	Schwing Electrical Supply Corp.
16	Scott Electric Co.
210	Seamans Supply Co., Inc.
50	Seattle Lighting & Fixture Co.
239	Shanor Electric Supply, Inc.
105	Shealy Electrical Wholesalers, Inc.
163	Shepherd Electric Co., Inc.
186	Shepherd Electric Supply Co., Inc.
28	Southern Electric Supply Co., Inc.
157	Splane Electric Supply Co.
60	Springfield Electric Supply Co.
168	Square Electric Supply Co.
133	Standard Electric Company
128	Standard Electric Co.
74	Standard Electric Supply Co., Inc.
58	Stanion Wholesale Electric Co., Inc.
23	State Electric Supply Co., Inc.
36	Steiner Electric Company
177	Stokes Electric Co.
65	Stoneway Electric Supply
18	Stuart C. Irby Co.
37	Stusser Electric Co.
238	St. Louis-Metro Electric Supply, Inc.
7	Summers Electric Group
76	Summit Electric Supply Co., Inc.
176	Tacoma Electric Supply, Inc.
81	Taylor Electric Supply, Inc.
147	Teche Electric Supply, Inc.
151	Tecot Electric Supply Co., Inc.
75	Temple, Inc.
66	The F.D. Lawrence Electric Co.
104	The Hite Co.
204	The H. Leff Electric Co.
191	The H. Poll Electric Co.
137	The Loeb Electric Co.
199	The Reynolds Co.
250	The Starbuck Sprague Co.
132	The Van Meter Co.
249	Tri State Supply Co., Inc.
197	Triangle Electric Supply Co.
29	Tristate Electrical Supply Co., Inc.
101	Tri-Electric Supply, Inc.
31	Turtle & Hughes, Inc.
34	Tvesco, Inc.
85	Uhr Electric Supply Co., Inc.
113	United Electric Supply Co.
69	United Electric Supply Co., Inc.
117	Valley Electric Co. of Stockton
44	Viking Electric Supply, Inc.
120	Villa Lighting Supply Co., Inc.
223	Voss Electric Supply Co.
158	Wabash Electric Supply, Inc.
47	Walters Wholesale Electric Co.
26	Warren Electric Co.
30	Watson Electric Supply Co.
84	Wehle Electric Co., Inc.
149	Werner Electric Supply Co.
141	West Chester Electric & Electronics, Inc.
234	West Virginia Electric Supply Co.
229	Western Extralite Co.
3	Westinghouse Electric Supply Co.
211	Wholesale Electric Supply Co., Inc.
27	Wholesale Electric Supply Co. of Houston, Inc.
121	Wholesale Electrical Supply Corp.
207	Wolberg Electrical Supply Co., Inc.
170	Wolff Bros. Supply, Inc.
201	Womack Electric Supply Co., Inc.
5	W.W. Grainger, Inc.
167	York Electrical Supply Co. (YESCO)

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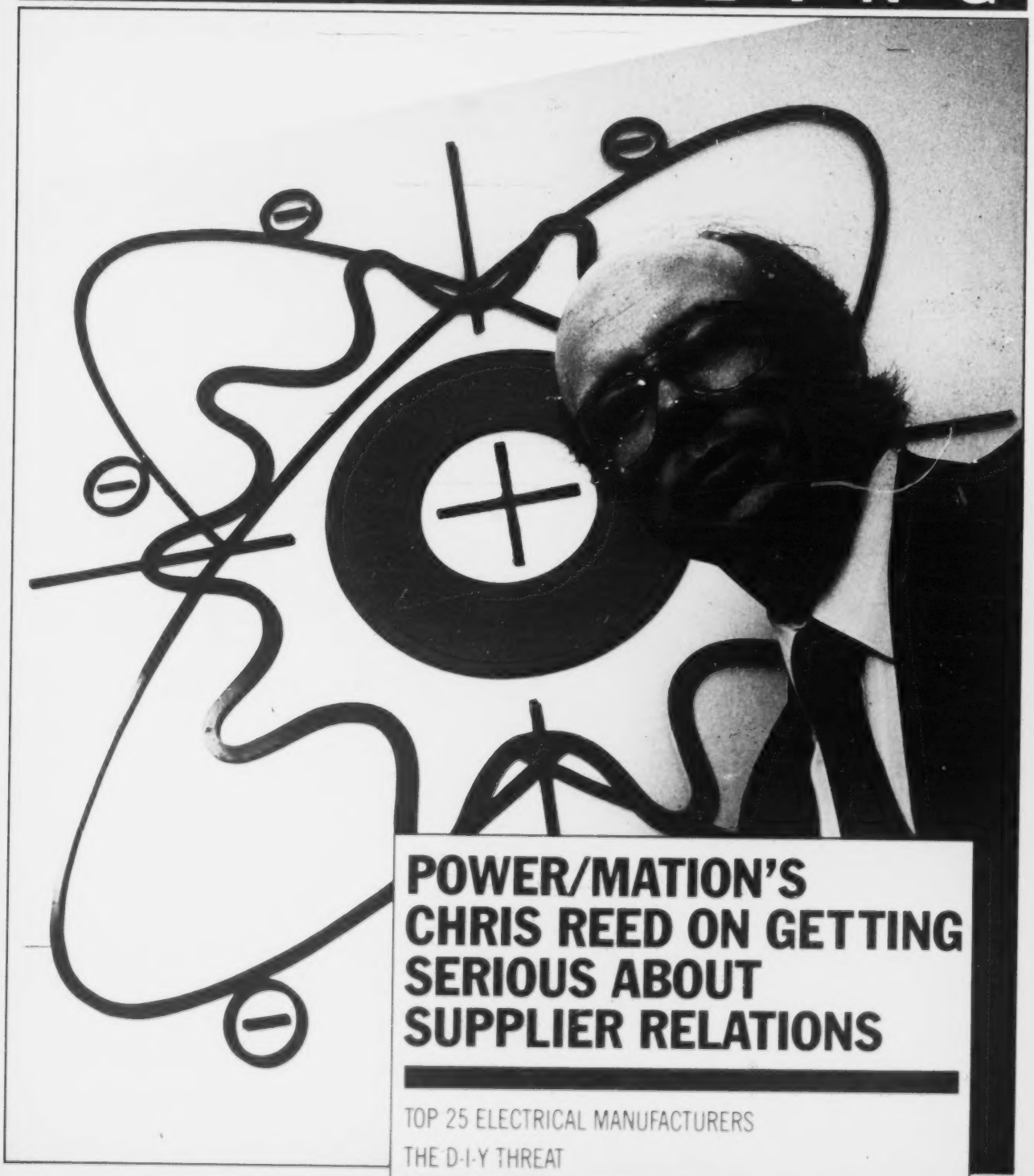
ELECTRICAL WHOLESALING



POWER/MATION'S CHRIS REED ON GETTING SERIOUS ABOUT SUPPLIER RELATIONS

TOP 25 ELECTRICAL MANUFACTURERS

THE D-I-Y THREAT

VOLUME 73
NUMBER 8

ELECTRICAL WHOLESALING

AUGUST
1992

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ELECTRICAL WHOLESALING

THE PUBLISHER'S NOTE

Sharp-eyed ELECTRICAL WHOLESALING readers will spot several new developments this month. The annual list of the largest electrical manufacturers, now in its third year, has been enhanced with capsule summaries of each of the 25 manufacturers listed (page 36). In researching this article, Chief Editor Jim Lucy sought out information from many sources, including the financial analysts who follow the public companies on the list. Then came another tough task—condensing all that research into 150 words or less for each company. Jim's considerable editorial talents come through on this project.

This issue marks the ELECTRICAL WHOLESALING debut of Ben Wood, Contributing Editor, (D-I-Y Threat, page 43). Ben recently joined the staff of our sister publication, *Electrical Marketing* newsletter. Before joining EM, he ran his own newspaper in eastern New Mexico. Ben is a crack journalist who can write from the perspective of having run his own business. That's a unique combination, and one we are pleased to bring you.

And starting with this issue, you'll see several stories tagged "Side Lights." These concise, one- or two-page articles cover topics that directly affect you or your customers. You'll get all the facts you need to know, usually without having to turn a page.

Refinements like these are part of our continuing efforts to make ELECTRICAL WHOLESALING a magazine that will have an immediate impact on helping you do your job better.

Rich Hathaway

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THE BIG GUNS

THESE COMPANY SNAPSHOTS GIVE A BEHIND-THE-SCENES LOOK AT WHAT'S HAPPENING WITH THE LARGEST ELECTRICAL MANUFACTURERS.

■ This listing and accompanying company updates track the many changes among the largest in the electrical manufacturing community. The article differs from our past listings of the largest electrical equipment manufacturers. For instance, instead of just ranking the companies by sales volume, this year we added a capsule summary of the news and changes underway at each company.

Another big difference between this year's list and our efforts in years past: This article has only companies with sales volumes of more than $400 million, whereas in years past we listed companies down to about $50 million in sales. We made the change because of the question of what exactly is a "big" company, in an industry where a few companies have electrical product sales of over $400 million and several hundred have sales of less than that figure. Where does one set the breakoff point on bigness? Interestingly enough, only 60 electrical equipment manufacturers or so even have over $50 million in electrical sales sold in part through electrical distributors, if one doesn't list the subsidiaries of other electrical companies as separate entities. Score one for the little guys—that means the overwhelming majority of suppliers selling products through electrical distributors are companies with total annual sales volumes of less than $50 million.

Combined, the 25 manufacturers in this article have over 100 divisions, subsidiaries or product lines. In many cases, these companies have their own individual identity and operate independently of the parent company. Where end users have strong ties to the product line, it seems that name reigns supreme, but when the corporate identity has more power in the marketplace, that tends to supersede the identity of the individual entity.

Previously, we listed many subsidiaries of larger electrical manufacturers as separate entities where those sales figures were available. This year's listing ranks companies by the electrical sales of the corporation, which gives a much clearer picture of the companies with the most clout in the electrical wholesaling industry.

The new format reveals several other interesting observations about the makeup of the U.S. electrical manufacturing community:

- Leviton Manufacturing Co., Little Neck, N.Y., is the only privately owned company among the 25 largest electrical equipment manufacturers selling products through electrical distributors.
- Despite the increasing influence U.S. subsidiaries with foreign parents have in the electrical market, only seven companies on this list have offshore roots.
- Most of the companies on this list are owned by parents with wide-ranging interests that go far beyond the electrical market. These parent companies tend to be diverse industrial conglomerates involved in a wide range of products for industrial markets, such as Cooper Industries, Inc., St. Louis, Mo.; Eaton Corp., Cleveland, Ohio; Emerson Electric Co., St. Louis, Mo.; GE Co., Plainville, Conn.; General Signal Corp., Stamford, Conn.; and Westinghouse Electric Corp., Pittsburgh, Pa. The manufacturers on this listing in which the parent company or they themselves

By Jim Lucy, Chief Editor

concentrate primarily on the electrical/electronics arena include ABB Power T&D Co, Inc., Blue Bell, Pa.; AMP, Inc., Harrisburg, Pa.; Genlyte Group, Inc., Secaucus, N.J.; Groupe Schneider, Paris, France; Hubbell, Inc., Orange, Conn.; Leviton; MagneTek, Inc., Los Angeles, Calif., and Thomas & Betts Corp., Bridgewater, N.J.

- In the wire and cable, lighting fixture and, to some degree, factory automation markets, the largest players are usually built through acquisitions that give the company a full package of products for that industry. That's because customers often buy a package of related products in these areas, and the manufacturers want customers to buy their package of products whenever possible.
- More companies now lump their U.S. sales under a North American total sales figure, a clear indicator that more manufacturers see the U.S. and Canada as a single market.

Methodology. Is bigger necessarily better? Not always. But that's a question readers always ask the editors at ELECTRICAL WHOLESALING after one of our lists of the largest electrical manufacturers or electrical distributors hits the streets.

Some small companies just don't like to see large competitors get what they feel is undue publicity, and they are quite vocal in telling us so. Others question sales volume as a determinant of size. Our intentions have never been to generate publicity, but instead to put a perspective on the electrical wholesaling industry. An indisputable fact of life in the electrical business is that the big are getting bigger, and one way of taking a reading on just how large the biggest players have become is listing them by sales volume. This measurement, of course, says nothing about a company's profitability, customer service, product quality or amount of business sold through electrical distributors.

Yet, total sales volume still provides a fair method to weigh a company's relative size, as long as one doesn't read anything more into it than that and avoids making the mistake of automatically equating size with quality.

Since most of these companies are publicly owned, financial information was available through annual reports or other company publications. Where the sales figures were not available from the companies themselves, the figures come from industry sources or were taken from *Dun & Bradstreet's Business Rankings of Public and Private Companies* and *Standard & Poor's Register*. All sales figures are listed as estimates because of the variety of ways companies define "electrical sales."

1

GE Co.

Fairfield, Conn.

Electrical divisions:
GE Electrical Distribution & Control, GE Fanuc, GE Lamps, GE Lighting, GE Motors and GE Wiring Devices

1991 electrical products sales estimate:
$4.5 billion

Chairman Jack Welch's management style infatuates many in the investment community, and it seems to be paying dividends as GE has reduced operating expenses and injected renewed vigor into operating units with the Work-Out-Way (WOW), its interpretation of the quality process.

Although the company gets a lot of positive publicity from its lamp manufacturing joint venture with Tungsram in Hungary, the honeymoon ended recently when GE cut its capital investment in the operation from the $40 million planned this year back to $30 million because of rising manufacturing costs and inflation in Hungary.

The launch of the Spectra Series of panelboards and circuit breakers and the Power Leader power management system highlighted a busy year at the Electrical Distribution and Control business unit, which also saw a round of upper-level management changes.

2

Westinghouse Electric Corp.

Pittsburgh, Pa.

Electrical divisions:
Industries Group (which includes the Distribution and Control business unit and Challenger Electrical Equipment Corp.)

1991 electrical products sales estimate:
$3.1 billion

The Industrial business unit is maintaining its course in a tough business climate, while investment analysts in recent years have been working the parent company over pretty good because of its commercial real estate loans. But a ray of sunshine recently broke through when one analyst, Nicholas Heymann of County NatWest Securities USA, New York, N.Y., not only gave the company a "buy" rating, but also said he considers Westinghouse a "wildcard winner" in 1992.

The company's launch of Advantage motor starters was reportedly well-received by electrical distributors.

3

GTE Products Corp.

Danvers, Mass.

Electrical divisions:
Sylvania lighting division

1991 electrical products sales estimate:
$2.2 billion

It seems that it's no longer a question of "if" the lamp business will be sold, but "when" and "to whom." GTE wants to concentrate more on its core telecommunications businesses and has put its Electrical Products Business unit up for sale (of which lamps make up the majority of the business). The lamp business, with its development labs, nationwide network of distributors and over 200 types of energy-efficient lamps will be a real prize for someone. Speculation on potential suitors ranges from arch-rivals Philips and Osram to Kohlberg, Kravitz and Roberts (KKR).

The company is still doing an admirable job of cranking out innovative, energy-saving lamps, despite all the corporate turmoil.

4

Cooper Industries, Inc.

Houston, Tex.

Electrical divisions:
Belden, Bussmann, Cooper Electric, Crouse-Hinds, Cooper Lighting, Cooper Distribution Equipment, Cooper Power Systems and Midwest Electric

1991 electrical products sales estimate:
$2.1 billion

Cooper offers one of the most diverse packages of electrical equipment in the industry today. While the company was quieter than usual on the acquisition front last year, when it does make a move it's usually to add a company with high brand-name recognition to its stable of well-known product lines. The economy stymied any really significant growth among its operating units. Cooper divested part of the Arrow Hart Components business unit, Charlottesville, Va., a producer of definite-purpose contactors, to Products Unlimited Corp., Sterling, Ill.

Talk about clout. The 25 manufacturers on this list sell their products through over 100 subsidiaries, divisions or product lines.

5

ABB Power & Transmission Co., Inc.

Blue Bell, Pa.

Parent company:
ABB Asea Brown Boveri

Electrical subsidiaries:
(U.S.) ABB Power Systems, Distribution Automation Division, ABB Systems Control Co.

1991 electrical products sales estimate:
$2.0 billion

Globally speaking, this company is one of the largest electrical equipment manufacturers on earth, but the U.S. offspring of the diversified electrical conglomerate formed several years ago by the merger of ASEA of Sweden and Brown Boveri of Switzerland, keeps a low profile in the electrical wholesaling industry. Yet 30% of the company's sales go through electrical distributors and other industrial/construction reps and distributors in related industries. ABB is best known in this country in the utility industry, but U.S. electrical distributors may see the company in the circuit breaker and industrial control markets.

6

Groupe Schneider

Paris, France

Electrical subsidiaries and product lines:
EPE Technologies, Federal Pioneer, Merlin Gerin, Square D and Telemecanique

1991 electrical products sales estimate:
(North America): $1.9 billion

Just how big is this French presence, anyway? Along with Square D, which it acquired last year, Groupe Schneider owns Telemecanique, EPE Technologies and Spie Bagtignolles, one of the largest general contractors in the world. How Square D and Tele-mecanique divvy up their industrial control product lines and which distributors get to carry what products is still the talk of the industry.

Any acquisition has its share of ups and downs as the participants struggle to redefine themselves, and this marriage is having its share, too. Square D's launch of the nonmetallic Trilliant load center and its Elan Home Wiring Network were two gutsy moves in a dismal building market.

7

Siemens Corp.

New York, N.Y.

Parent company:
Siemens AG

Electrical divisions:
Energy & Automation, Industrial Automation and Osram Corp.

1991 electrical products sales estimate:
$1.6 billion

It's been a busy year for the U.S. subsidiaries of the German giant. The Industrial Automation group was formed with the recent acquisition of the Texas Instruments control division and the blending of it with the automation business of the Energy & Automation division. The new division, with a sales volume of over $100 million, projects sales growth over the next three years of 10% to 15%.

Osram continues on its path of targeting higher-profit energy-efficient light sources and steering clear of commodity lamps. This year the company also started selling its electronic ballasts, which had been on the market in Europe for years. The company also recently added 60,000 sq ft to its Montgomeryville, N.Y., factory and office where it manufactures many of its energy-efficient lighting products.

Back down in Georgia, the Energy and Automation division launched several new products, including the CB/SA residential circuit breaker and surge arrester, SB Encased Systems breakers and the Access master control system for industrial and office facilities.

8

Eaton Corp.

Cleveland, Ohio

Electrical divisions and subsidiaries:
Cutler-Hammer Products, Dynamatic Products, Durant Products and Opcon

1991 electrical products sales estimate:
$1.6 billion

The company continues to make acquisitions to fill in its already broad product offering. Most recently, the company acquired the Arrow-Hart switch business, located in Plymouth, England, and Heinemann Electric Co., Lawrenceville, N.J., a manufacturer of hydraulic and magnetic circuit breakers.

In other major moves, the Cutler-Hammer Products division signed on with Smart House, to be in on the early going in case the home automation market takes off. The division also plans to play down its corporate parentage and put more emphasis on the Cutler-Hammer name in the future (one of the grand old names in the electrical industry).

9

MagneTek, Inc.

Los Angeles, Calif.

Electrical divisions:
Ballasts and transformers, motors and controls, and utility and power products.

1991 electrical products sales estimate:
$1.1 billion

MagneTek is banking big-time on its corporate focus on energy-efficient products. Witness the company slogan in its current advertising: "Your source for 'energy engineered' motors, drives, lighting ballasts, transformers, generators, condensers, power supplies and services."

Utility rebate programs help out here, and one investment banker says MagneTek's electronic ballast sales doubled in 1991 because of these programs.

The company spreads the "E" word overseas, too, as it acquired German electromagnetic ballast manufacturer May & Christie GmbH during the past year to use that company's well-developed distribution channels to sell electronic ballasts manufactured in Italy.

10

Philips Lighting Co.

Somerset, N.J.

Parent company:
N.V. Philips

Subsidiary:
Advance Transformer Co.

1991 electrical products sales estimate:
$1.1 billion

The company's favorite color seems to be environmental green, as Philips continues to improve on its base of energy-efficient lighting products. At the recent LightFair show in New York, the company showcased several energy-efficient lamps, including a shorter version of the widely promoted Earth Light, a line of triple U-tube compact fluorescent lamps and a new lighting system using an induction lighting coil to induce high-frequency energy to flow into a low-pressure mercury gas inside a phosphor-coated bulb. This lamp lasts 60,000 hours, a plus in hard-to-reach locations.

Despite the financial problems of its parent company, Philips Lighting continues to play a leading role in the lamp market here.

Although the companies listed here annually sell billions of dollars of electrical products, never underestimate the power and presence of the hundreds of smaller companies in the electrical wholesaling industry.

11

Thomas & Betts Corp.

Bridgewater, N.J.

Electrical product lines:
T&B conduit fittings, terminals and connectors, American Electric Lighting, Blackburn, Holub, Kindorf, Electripak, Nevada Western, Perfect-line, Steel City, Superstrut, Ty-Duct, Ty-Rap and Versa-Trak

1991 electrical products sales estimate
(includes American Electric's 1991 sales): $1.0 billion

It was one of the biggest mergers in the electrical wholesaling industry, and one that blended two companies with strikingly different personalities and backgrounds. T&B—a company widely respected for its distributor policy and a vocal believer in direct factory salespeople, and American Electric—a relatively young company created by an investment banking company, that, in a short time, built a vibrant organization with independent manufacturers representatives. The two companies plan to combine the best of both of their worlds: the power of T&B's well-established brand name and American Electric's stock warehousing and product delivery system, as well as its innovative Signature Service program.

12

General Cable Corp.

Cincinnati, Ohio

Electrical divisions and product lines:
Carol Cable, Capital Wire & Cable, Guardian Products

1991 electrical products sales estimate:
$1.0 billion

When Penn Central Corp., Cincinnati, Ohio, recently announced it was spinning off the Carol Cable, Guardian Product and Capital Wire & Cable business units into a separate public company, the electrical industry breathed a collective sigh of relief, because it seemed as if the company would now have a chance to get back to the wire and cable business.

On paper, the marriage of these companies forms one of the giants in the wire and cable industry. But because of low demand for its products and overcapacity in many of its core markets, the honeymoon was short-lived. Yet, many industry observers see the move as a chance for these wire and cable companies to function more efficiently and to take the focus off its residual legal difficulties from the purchase of Carol Cable from Noranda, Inc.

13

Allen-Bradley Co.

Milwaukee, Wis.

Parent company:
Rockwell International

1991 electrical products sales estimate:
$1 billion-plus

Allen-Bradley still stands as the undisputed king of the automation market, with a widely-respected name on the plant floor. Competitors keep gunning for A-B, particularly in the programmable logic controller market, but the company still retains the top spot, with a 40% piece of that pie, according to one analyst.

While selective distribution programs are now a popular craze in the industry, Allen-Bradley's distributor network is the most selective of all—the company markets its entire product line through several hundred electrical distributors.

14

Southwire Co.

Carrollton, Ga.

Parent company:
Spectrum Ltd.

1991 electrical products sales estimate:
$1.0 billion

Although many people in the electrical industry think first of building wire when they hear the name Southwire, the company travels a long way from this competitive market—like Japan. Southwire recently cleared the tough trade and quality barriers in Japan to bid utility cable needs of TEPCO, one of Japan's largest utilities. Now that TEPCO likes working with Southwire, the company expects other Japanese utilities to follow.

The company is very proud of its new D.B. Coler Technology Center, a 50,000 sq ft R&D laboratory for testing new wire and cable products.

Seven companies on this year's list have offshore roots.

15

BICC Cables Corp.

West Nyack, N.Y.

Parent company:
BICC plc

Divisions:
Cablec Utility Cable, Cablec Continental Cables, Brand-Rex and Phillips Cables

1991 electrical products sales estimate:
$700 million (close to $1 billion, with expected purchase of electrical cable operations from Reynolds Metals)

BICC Cables Corp. traveled an interesting route to its present status as one of the largest players in the wire and cable business. Cablec Corp., the company's first business, was originally formed by president and CEO Harry Schell and a team of investors in 1984 through a management buyout of the power cable business of Phelps Dodge Cable and Wire Co. Other acquisitions included that of the power cable business of Anaconda Ericsson, Essex Power Cable, Continental Wire & Cable, BRIntec Corp. and the purchase of a majority interest in Phillips Cables Ltd.

BICC plc, London, England, bought pieces of what was then Cablec Corp. in 1987, 1988 and 1989, and then last year renamed the company BICC Cables Corp. to manage all of its North American wire and cable operations.

BICC Cables Corp. continues to make news in the wire and cable industry. Its most recent acquisition, which is expected to be finalized next month, of the North American electrical cable operations of Reynolds Metals Co., Richmond, Va., will increase the company's aluminum wire and cable business. It also will give the company access to the aluminum transmission cable and 600V insulated wire and cable market.

16

Hubbell, Inc.

Orange, Conn.

Divisions:
Hubbell Lighting, Kellems, The Ohio Brass Co., Killark, Raco, Hubbell Wiring Devices, Kerite Co., Hubbell Industrial Controls, Bryant Electric and Hubbell Premise Wiring

1991 electrical products sales estimate:
$756.1 million

Hubbell continues to build a diversified package of products going far beyond its traditional focus on wiring devices and the maintenance and repair markets. For instance, while its premise wiring division accounts for a much smaller percentage of sales than its wiring device business, it positions Hubbell in the fast-growth telecommunications wiring market.

The company is building its presence in the commercial/industrial (C/I) lighting market, too, and recently restructured its lighting subsidiaries into one business unit so that it can compete more effectively with the other C/I lighting conglomerates.

Rumors persist in the investment community that if the right acquisition came along that would help the company diversify its product lines even further, Hubbell would give it a go. According to one investment analyst, during the last two years the company spent $82 million on acquisitions, including that of Bryant Electric Co. from Westinghouse Electric Corp., and Marco Lighting from Hanson plc.

17

Lithonia Lighting

Conyers, Ga.

Parent:
National Service Industries

Key product lines:
Acme-Dunbar, Emergency Lighting, Hi-Tek Lighting, RELOC Wiring Systems, National Lighting Standards, Major Reflector Products, Lithonia Controls and Lithonia Downlighting

1991 electrical products sales estimate:
$750 million

By all estimates, Lithonia Lighting has the largest commercial/industrial (C/I) lighting package in the market today. The company continues to dominate the fluorescent fixture market, which accounts for the lion's share of the market. Lithonia rounded out its fixture package with a line of lighting controls, a growing trend among the lighting giants.

18

Emerson Electric Co.

St. Louis, Mo.

1991 electrical sales volume:
$600 million

Electrical subsidiaries:
Appleton Electric, Automatic Switch, Chromolux, Louisville Ladders, McGill, Ridge Tools and U.S. Electrical Motor

Emerson Electric is a quiet giant in the electrical industry. End users and distributors know its subsidiaries quite well, but the parent company keeps a low profile and promotes the individual identities of these companies more than itself.

But Wall Street keeps a close eye on Emerson Electric and considers the company a steady performer. Nicholas Heymann of NatWest Securities recently gave Emerson Electric an "accumulate" rating, and expects the company to post a 6% sales gain this year.

19

AMP, Inc.

Harrisburg, Pa.

1991 electrical products sales estimate:
$530 million

Investment circles consider AMP a steady performer, due in part to its strong presence in global markets. The company, with 61% of total sales from offshore, now has 165 facilities in 31 countries. At one time AMP did the vast majority of its business direct, but in recent times, its volume through distributors has increased. In 1991, 14% of the company's total business went through distributors and co-op affiliates, compared to 1%, 20 years earlier.

AMP continues to be one of the primary supporters of the Smart House home automation system, which is slowly making its way into the homebuilding market.

20

General Signal Corp.

Stamford, Conn.

Divisions and product lines:
Dual-Lite, Edwards, Hevi-Duty, Nelson Electric, O-Z/Gedney and Sola Electric

1991 electrical products sales estimate:
$515 million

This diverse industrial conglomerate has distinctly global interests, as 30% of the parent company's total sales now come from offshore. These interests filter directly down to the electrical companies in its stable, as one can see in some recent acquisitions. Borri, an Italian manufacturer of UPS systems has been integrated into Sola Electric; last fall, O-Z/Gedney took on a line of explosion-protected safety products from BARTEC Barlian-Technik GmbH of Germany.

O-Z/Gedney took some heat in Connecticut for its decisions to move much of its manufacturing operations there to other parts of the U.S., but the company is still a big favorite among independent manufacturers' reps, who consider the line one of the premier ones in the industry.

21

Genlyte Group, Inc.

Secaucus, N.J.

Divisions:
Lightolier, (including the Lightolier, KLP and Crescent product lines) and the HID/Outdoor business unit (including Hadco, Stonco and Wide-Lite) Genlyte Controls, Canlyte and Diamond F/Timely Division

1991 electrical products sales estimate:
$500 million

While it's their cousins in other areas of the lighting industry—the lamp and ballast manufacturers—that usually march under the environmental banner, Lightolier recently became one of the early lighting fixture manufacturers to go for the green with its Energy Smart program, an innovative marketing campaign for electrical distributors. The program, designed to promote the two dozen new energy-efficient lighting fixtures the company recently launched, helps distributors uncover new sales opportunities in the retrofit market.

22

Leviton Manufacturing Co.

Little Neck, N.Y.

Subsidiary:
American Insulated Wire Corp.

1991 electrical products sales estimate:
$500 million

Leviton is the largest privately owned electrical manufacturer in the U.S. The company is also a giant in its own neck of the woods and is, according to many estimates, the largest manufacturer of residential wiring devices. Although this remains its primary focus, Leviton is quite active in the telecommunications market and continues to introduce an onslaught of new products in this area. The company is also an active player in the D-I-Y market, both in selling its products through this alternative channel and in urging distributors to sharpen their merchandising skills to compete against home centers.

Although Leviton is one of the largest electrical equipment manufacturers in the world, the company headquarters has a distinctly small-company feel. The walls of the Little Neck, N.Y., headquarters are covered with everything from hooked rugs done by Harold Leviton himself to his collection of "do not disturb" hotel-room door signs from around the world.

23

USI Lighting, Inc.

San Leandro, Calif.

Parent company:
Hanson plc

Product lines:
Architectural Area Lighting, Columbia Lighting, J.W. Lighting, Keystone, Moldcast Lighting, Prescolite, Prescolite Controls, Progress Lighting, Spaulding and Whiteway.

1991 electrical products sales estimate:
$500 million

As a member of "the Big Five" in the commercial/industrial (C/I) lighting fixture market (along with Lithonia Lighting, Cooper Lighting, Genlyte and Thomas Industries, Inc.) USI Lighting offers a complete C/I package. These companies have all found it tough going in the commercial market because of the dearth of new office construction. The one bright spot for USI and the rest of the lighting industry is the retrofit business that utility rebate programs generate.

24

Triangle Wire & Cable, Inc.

Providence, R.I.

Parent company:
Triangle Industries, Inc.

Product lines:
(Resulting from the consolidation of Royal Electric, American Metal Moulding, Triangle PWC and Westwire Co.)

1991 electrical products sales estimate:
Unavailable due to acquisitions; 1992 sales estimate is $500 million

The acquisitions and subsequent reorganization by Triangle underscore the ongoing revolution in the wire and cable industry, where the largest companies continue to broaden their product offerings so they can give distributors one-stop shopping for wire and cable products. The acquisitions enabled Triangle to expand from its traditional stronghold in building wire to the armored cable, specialty wire and cable markets.

According to its top management, Triangle's restructuring was based on a study it did several years back that showed the continuing consolidation by electrical distributors and new competition from D-I-Y home centers were forcing its distributor customers to look for wire and cable manufacturers with a broad product line, a national presence, low-cost products and efficient operating procedures in dealing with distribution.

25

Fasco Industries, Inc.

Fayetteville, N.C.

Parent:
Hawker Siddeley Group

1991 electrical products sales estimate:
$475 million

Because Fasco's product line cuts across so many markets, the company may be insulated from the recession more than many electrical equipment manufacturers. Still, many of the company's products have a heavy residential emphasis, and that's got to hurt, considering the state of the home-building market this year.

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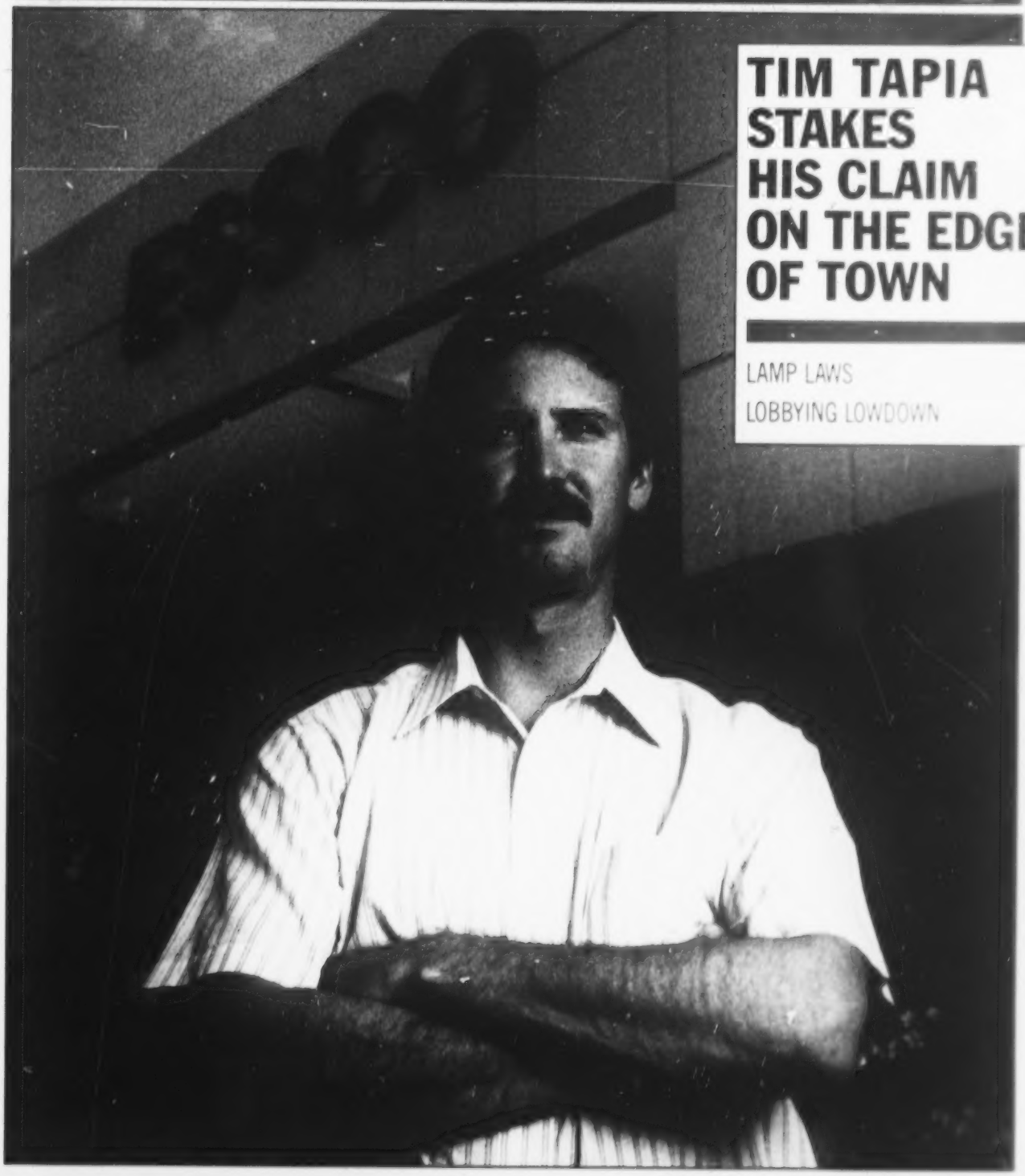

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LOBBYING LOWDOWN

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THE PUBLISHER'S NOTE

While compiling ELECTRICAL WHOLESALING's "250 Biggest" annual listing over the last few years, we've been intrigued by the fast growth of ESSCO Wholesale Electric Co., a 10-location distributor based in Gilbert, Ariz. So we sent Associate Editor Doug Chandler to ESSCO for a closer look: How are they creating this growth without the established industrial or commercial base you'd find in a major metro area?

It turns out that's just the point. President Tim Tapia told Doug how ESSCO targets sparsely populated—but promising—areas on the fringes of major cities. The company's growth then parallels the growth of the surrounding community. Doug's report, which begins on page 30, is packed with fresh ideas on building a business based on service to small- to medium-sized contractors.

Although Doug only recently joined ELECTRICAL WHOLESALING, this is his second cover story in as many months. Chief Editor Jim Lucy and I are very impressed with how quickly Doug has grasped the workings of this industry. Look for more fine work from Doug in coming months.

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NEWS WATCH

News of the electrical industry

Osram buys GTE's Sylvania

GTE announced it had reached a definitive agreement to sell its world-wide lighting business, including Sylvania Lighting, Danvers, Mass., in two pieces for a total of about $1.1 billion to Osram, the lighting products subsidiary of Germany's Siemens AG, and an investor group led by Citicorp.

The proposed sale will propel Montgomery, N.Y.-based Osram into the No. 2 spot among U.S. lighting manufacturers, behind GE Lighting, Nela Park, Ohio. Osram had ranked fourth in the U.S., behind GE, Philips Lighting Co., Somerset, N.J., and Sylvania. Total annual sales of Osram will increase by 70% to about $3.1 billion.

Under the split agreement, GTE will sell the North American lighting operations of Sylvania to Osram. The investor group will form a new company, Sylvania Lighting International B.V., for the lighting operations in Europe, the Far East, Latin America and Australia. The investors are led by Citicorp Venture Capital Partners, a wholly owned subsidiary of Citicorp based in London.

GTE put the lighting business on the block last September, saying it wanted to concentrate on telephone and telecommunications operations.

Osram plans to continue to operate its manufacturing plant in Maybrook, N.Y., which will become part of Sylvania's North American lighting operations. Osram also said it will continue to sell through distributors and manufacturers' representatives, however some changes are expected in how Osram structures its sales force.

Mass Gas files Chapter 11

New England's troubled economy has forced 78-year-old Massachusetts Gas & Electric Light Supply Co., Inc. (Mass Gas), Watertown, Mass., to file for protection under Chapter 11 of the U.S. Bankruptcy Code.

Listing a $7.4 million debt to its creditors and assets of $5.8 million, Mass Gas filed the petition last month in the U.S. Bankruptcy Court in Boston, Mass. Mass Gas is run by Charles Steiner, who heads the Branch Group, Inc., Upper Marlboro, Md.

In a letter to vendors with The Independent Electrical Distributors, Inc. (TIED), buying/marketing group, of which Mass Gas was a member, Steiner said he realized that he was too aggressive in his involvement and too early in his acquisition activities in the New England market. "I accept full responsibility for what has happened and feel obligated to minimize the exposure of our vendors," he wrote.

Mass Gas plans to continue operating under the auspices of Chapter 11, says Douglas Hoffman, chief executive officer for Mass Gas and Electric Specialty & Supply Corp. (ESSCO), Boston, although some reduction in operations is expected.

Mass Gas already had cut back its branches from seven to four in July, by closing its houses in Providence, R.I., Nashua, N.H., and its former headquarters in Boston. The company maintains branches in Watertown and Lynn, both suburbs of Boston, Port Smith, N.H., and New Bedford, Mass.

THE PLC MARKET AT A GLANCE

In the competitive world of factory automation, Allen-Bradley Co., Milwaukee, Wis., remains the undisputed king of the programmable logic controller (PLC) market, according to Automation Research Corp., Medfield, Mass., an international market research and management consulting firm on industrial automation. The combined North American market for PLCs totaled just over $776 million in 1991. Allen-Bradley was the North American market share leader, capturing over 40% of total shipments.

Suppliers with less than 4% market share in 1991 included Honeywell, Reliance Electric, Mitsubishi, IDEC, Westinghouse, Giddings & Lewis, Eagle Signal, Eaton Cutler-Hammer, Toshiba, Klockner Moeller and Cincinnati Milacron.